MAKING THE CASE FOR CHANGE

Advancing the NWT Chronic Disease Management Strategy

DIABETES | RENAL | MENTAL HEALTH

Northwest Territories Health and Social Services

Canadian Foundation for Healthcare Improvement / Fondation canadienne pour l'amélioration des services de santé

Message

The Northwest Territories (NWT) has one of the highest burden of diseases in Canada and improving this situation presents a significant challenge for all residents and care providers. The NWT Chronic Disease Management Evaluation Report – *Making the case for change* provides the framework for improving population health and wellness across the Territory through reducing the incidence and impact of chronic conditions on our communities.

Building on our achievements and impact on health outcomes, we will continue to aim for the provision of highest quality care for people with chronic conditions, and expand our current services, placing more emphasis on primary and secondary prevention. The strategic nature of this document has a strong focus on the management of chronic diseases across the continuum of care and emphasizes the need for a more proactive approach. Never before has there been a greater need to empower individuals and the community through an understanding of what causes ill health and what can prevent it. There is not only a need to change lifestyle habits and behaviors to enhance wellness, but to create systems and environments that support healthy behaviors.

Historically, our health system has mainly focused on detecting, diagnosing and treating health problems. As we move forward, we will place greater emphasis on building and consolidating effective partnerships among individuals, families and communities and their local health and social services.

The Department of Health and Social Services (DHSS) will work towards incorporating the lessons learned and recommendations into a NWT Chronic Disease Management Strategy that identifies the prevention and management of chronic conditions as a system priority. We will achieve this through the implementation of best practices and evidenced based interventions that target common risk factors, important emerging health challenges, and the social determinants of health.

I would like to thank all those involved in the design, implementation and evaluation phases of this project for their contribution and efforts, and I urge you all to remain engaged and committed to improving the health outcomes of NWT residents.

Sincerely,

Debbie DeLancey
Deputy Minister of Health and Social Services
Government of Northwest Territories

Acknowledgments

True collaboration takes place when healthcare professionals from across jurisdictions and across disciplines bring to bear their unique knowledge, skills and experiences to resolve persistent challenges, perform vital functions and tackle common problems – together. The work represented in this report represents the efforts of many professionals from across Northwest Territories (NWT) and the Canadian Foundation for Healthcare Improvement (CFHI). We would like to acknowledge the guidance and leadership of the Chronic Disease Management (CDM) Steering Committee members. We would also like to sincerely thank our expert reviewers, who provided important insights drawing from their rich expertise and experience. Without our collaboration, this work would not have been possible.

NWT Chronic Disease Management Steering Committee

Donna Allen
Director, Territorial Health Services, DHSS

Kay Lewis
Chief Executive Officer, Stanton Territorial Health Authority, NWT

Andy Langford
Director, Community Wellness and Social Services, DHSS

Kimberly Riles
Manager, Primary Community and Acute Care Services, DHSS

Laura Seddon
Director, Population Health, DHSS

Kami Kandola
Deputy Chief Public Health Officer, DHSS

Jim Corkal
Medical Director, Stanton Territorial Health Authority, NWT

Les Harrison
CEO & Director, Social Programs, YHSSA

Vicki Lafferty
Manager, Continuing Care and Health Systems Planning, DHSS

Ruchie Lamba
Senior Project Manager, DHSS (ex-officio)

Melanie Morse
Project Coordinator, CDMP, DHSS (ex-officio)

Expert reviewers

Clare Liddy
Assistant Professor, University of Ottawa's Department of Family Medicine with a cross-appointment to the Department of Epidemiology and Community Medicine

Dale McMurchy
Consultant

Sam Shep
Professor, School of Population and Public Health, University of British Columbia

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CFHI staff

Keesa Elicksen
Program Officer, Performance Improvement

Kirby (Christine) Kirvan
Improvement Liaison, Collaboration for Innovation and Improvement

Erin Leith
Senior Advisor, Collaboration for Innovation and Improvement

Kaye Phillips
Director, Performance Evaluation

Stephen Samis
Vice-President, Programs

Jennifer Verma
Director, Collaboration for Innovation and Improvement

CFHI faculty

Francois Champagne (Lead Faculty)
Full Professor, Université de Montréal

Jean-Louis Denis
Full Professor, École nationale d'administration publique

Francois-Pierre Gauvin
Lead, Evidence Synthesis and Francophone Outreach, McMaster Health Forum, McMaster University

Kevin Kelpin
EvalLab

Michael Moffatt
Executive Director, Winnipeg Regional Health Authority

Kaye Phillips
Director, Performance Evaluation, CFHI

Sam Sheps
Professor, School of Population and Public Health, University of British Columbia

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Table of Contents

3 Executive Summary

4 Recommendations

5 Introduction

5 Forging an integrated strategy for chronic disease management

11 Discussion and Recommendations

12 Self management

14 Health System Design

16 Decision support

18 Information Systems

19 Summary of Recommendations

21 Change Management Issues: Recommendations for Governance

23 Conclusion

25 Diabetes Pilot Project Summary: Self-management

26 The context

27 Our approach

31 What we found

34 Considerations for sustainability and integration

35 **Renal Disease Pilot Project Summary:** Improvement Coordination

36 The context

36 Our approach

39 What we found

44 Considerations for sustainability and integration

45 **Mental Health Pilot Project Summary:** Standardized Processes and Information Sharing

46 The context

46 Our approach

49 What we found

52 Considerations for sustainability and integration

53 Appendices

53 References

Executive Summary

The Chronic Disease Management (CDM) project was launched in September 2010 as a partnership between the NWT Department of Health and Social Services (DHSS) and the Canadian Foundation for Healthcare Improvement (CFHI), a national not-for-profit organization. An integral part of the Department's ongoing efforts to reduce the risk and improve the management of chronic disease, the CDM project pursued three objectives:

- Develop pilot improvement projects (IPs) that maximize the use of resources and provide care based on evidence and informed practices.
- Apply lessons from these projects in the development of an integrated CDM strategy.
- Strengthen capacity and self-reliance in the use of evidence to inform sustainable and efficient health system decisions, processes and policy.

Targeted pilot projects

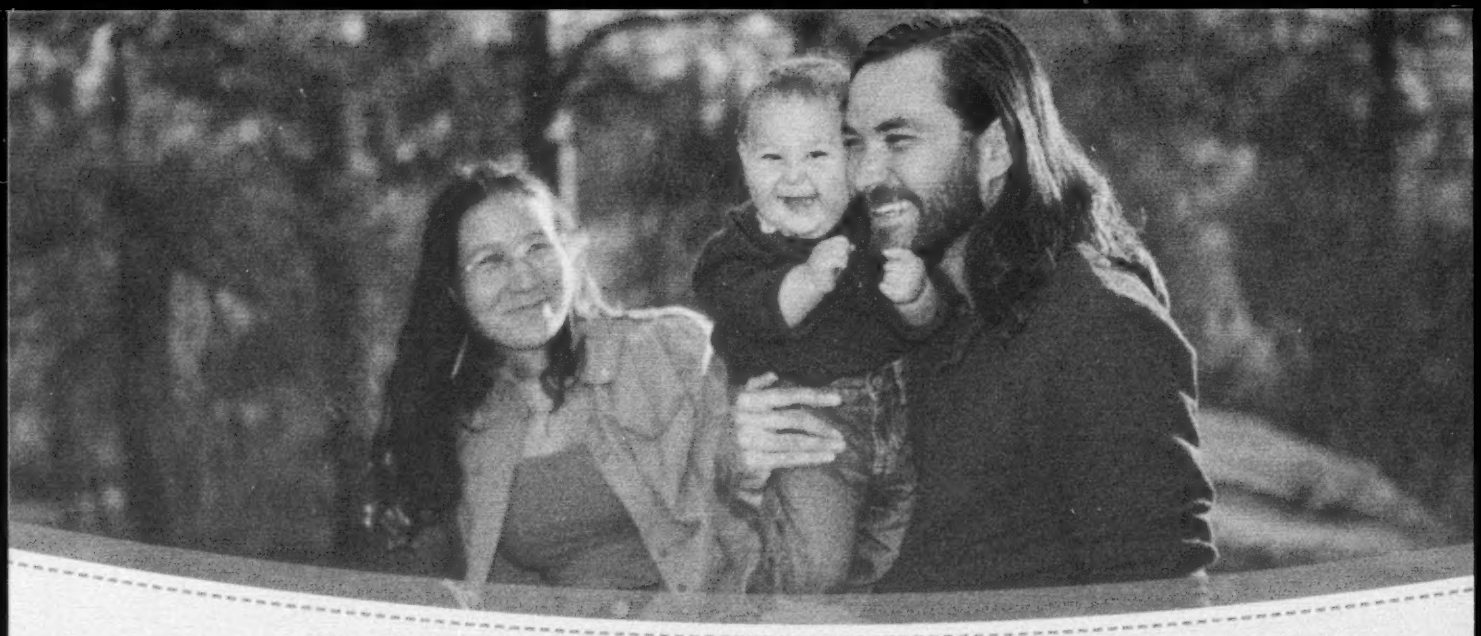
The IPs addressed three chronic disease areas: diabetes, renal disease and mental health. The diabetes IP team focused on building the capacity of primary care teams to provide self-management support (SMS) to people with type 2 diabetes in Behchoko, Norman Wells and Yellowknife. To support this goal, the IP team created a self-management training package, delivered SMS training to primary care service teams, and implemented SMS activities as part of routine care in each pilot site.

The renal disease IP team focused on integrating the provision, and increasing the consistency of renal care across the Territory. Yellowknife Health and Social Services Authority (YHSSA) and Hay River Health and Social Services Authority (HRHSSA) supported the project through the piloting of a centralized renal patient database while Stanton Territorial Health Authority (STHA) supported the project through the use of their central referral intake. The IP team set out to standardize the definition and process for primary care decision support of early stage renal disease detection and management.

The mental health IP team focused on standardizing referral practices and the sharing of mental health information between the communities of Fort Good Hope and Fort Simpson and the psychiatry unit and emergency department at STHA and outpatient psychiatry at YHSSA. During the pilot, the team developed standardized referral and information sharing pathways, trained care providers on use of the new pathways, and implemented the pathways in the pilot communities.

Marked improvements

In less than three years, the CDM project has strengthened local capacity in evaluation, change management and performance management. It has enhanced leadership and engagement by training



approximately 80 staff and involving another 190 in the pilot projects. It has introduced a range of practical, customized tools and processes that offer further potential in future improvement work.

The IPs have led to a number of advancements in chronic disease management in the Northwest Territories. In the areas of professional and organizational practice, improvements include enhanced communication among regions and departments, and broad support for new care protocols and clinical practice guidelines. Greater standardization of care, better information sharing, earlier identification and diagnosis of diseases, more timely and appropriate referrals, and better engagement with and management of patients are among the improvements noted in the delivery of health services.

Recommendations

The design and implementation of the IP pilots constitute significant steps towards an integrated, territory-wide CDM strategy. Project evaluation has, however, highlighted several factors related to communication, program monitoring and evaluation, and the availability of resources that must be addressed to ensure continued CDM improvement throughout NWT.

The Department has made seven over-arching recommendations inten d in part to address these factors and sustain positive change that has been achieved through the CDM project:

Recommendation #1: Self-management support (SMS) should become standard practice for all primary care staff in NWT.

Recommendation #2: Adopt standardized policies and pathways for clinical referral and information sharing.

Recommendation #3: Support the use of integrated case management practices for patients with complex chronic care needs.

Recommendation #4: Integrate the use of evidence-based, standardized clinical practice guidelines for other chronic diseases.

Recommendation #5: Establish clear guidelines and pathways for patient consent and information sharing.

Recommendation #6: Establish standardized data collection and monitoring for all CDM initiatives.

Recommendation #7: Align future CDM work with the development of a territorial clinical information system.

Introduction

Forging an integrated strategy for chronic disease management

The Northwest Territories (NWT) Department of Health and Social Services (the Department) launched the Chronic Disease Management (CDM) project in September 2010 as part of an ongoing effort to reduce the risks and improve the management of chronic disease in the NWT. The CDM project involves a partnership with the Canadian Foundation for Healthcare Improvement (CFHI), a national not-for-profit organization that collaborates with governments, policy-makers and health system leaders to convert evidence and innovative practices into actionable policies, programs, tools and leadership development.

PERSISTENT AND ONEROUS

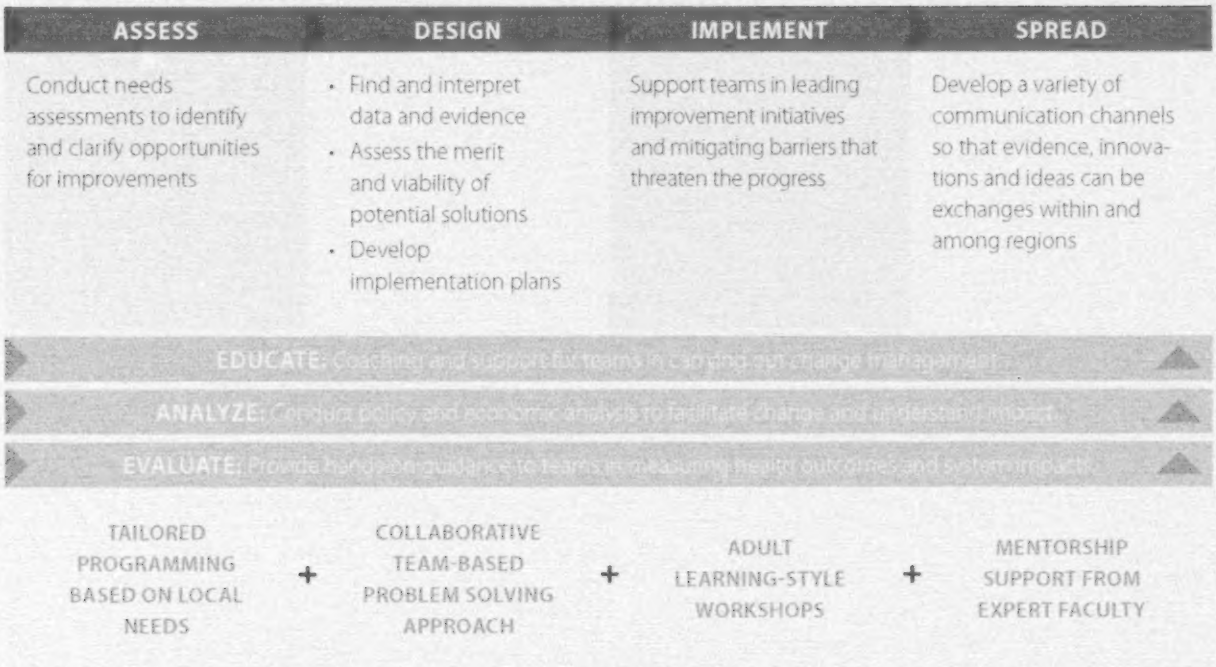
The World Health Organization defines chronic diseases as being of long duration and generally slow progression. The ongoing and often complex management of these diseases limits patients' daily activities and diminishes their quality of life while imposing considerable demands on their families, care providers, communities – and the healthcare system.

CFHI facilitated a process (Figure 1) in which the Department identified three over-arching project objectives to be achieved over a two-year period:

1. Develop and implement diabetes, renal disease and mental health improvement projects (IPs)* that maximize the use of resources and provide care based on evidence and informed practices.
2. Draw lessons from these projects to inform development of an integrated CDM strategy.
3. Strengthen capacity and self-reliance for the use of evidence to inform sustainable and efficient health system decisions, processes and policy.

* The IPs were initially called "tracer projects" in recognition of the tracer methodology used in the planning process. The names were eventually changed to "improvement projects" to clearly acknowledge the goal of the CDM initiative.

FIGURE 1
CFHI Approach to Healthcare Improvement


ASSESS
DESIGN
IMPLEMENT
SPREAD
Conduct needs assessments to identify and clarify opportunities for improvements
• Find and interpret data and evidence
• Assess the merit and viability of potential solutions
• Develop implementation plans
Support teams in leading improvement initiatives and mitigating barriers that threaten the progress
Develop a variety of communication channels so that evidence, innovations and ideas can be exchanges within and among regions
EDUCATE: Coaching and support for teams in change and change management
ANALYZE: Conduct policy and economic analysis to facilitate change and understand impact
EVALUATE: Provide hands-on guidance to teams in measuring health outcomes and system impacts
TAILORED PROGRAMMING BASED ON LOCAL NEEDS
+
COLLABORATIVE TEAM-BASED PROBLEM SOLVING APPROACH
+
ADULT LEARNING-STYLE WORKSHOPS
+
MENTORSHIP SUPPORT FROM EXPERT FACULTY

CFHI developed a customized multi-phase approach to support the Department in achieving the objectives of the CDM project. In Phase I, problems with the delivery of care for people with chronic diseases were identified and three IPs were designed. In Phase II, the IP design was refined and IPs were implemented at pilot sites across NWT. The lessons learned in each of these phases will inform the development of an integrated CDM strategy for the territory.

Social Networking

Illustrating the wide range of involvement and interdisciplinary participants, social network mapping allows us to see connections between individuals within the collaboration. Figure 2 illustrates the spread of the project across the territory and is divided by IP team. Showing the 'touch' network that has formed in the NWT within the parameters of the CDM collaboration, this map has been drawn from attendance lists, team charters, email chains, CFHI workshop reports, and the NWT Collaboration Interim Report. Attributes were drawn from interview data, CFH. database searches, and Google keyword searches.

Each node represents an individual who has had 'touch' with the projects. This constitutes any form of direct contact with the project – involvement, adoption, or awareness. As the legend indicates, the large black central nodes indicate the steering committee and DHSS in addition to Renal, Diabetes, and Mental Health IPs. From these nodes, we see the originally indicated team members, project lead, and pilot site leads (based on team charters, an explicit email listing of the team members, and the steering committee listing in the interim report). This does not include individuals who joined the project teams in later stages of the collaboration. These individuals are captured in the 'end user' population.

TARGETING IMPROVEMENT

Each CDM IP had a specific objective:

- **Diabetes** – To build capacity of primary care teams to provide self-management support to people with type 2 diabetes.
- **Renal** – To improve and integrate the provision of renal care provided to NWT residents.
- **Mental health** – To standardize processes and procedures for referral and sharing of information in mental health.

The CDM project directly involved more than 80 department and regional Health and Social Services Authorities (HSSA) staff in two groups of teams:

- Interdisciplinary, cross-regional **improvement teams** led each IP. Each improvement team brought together healthcare executives, policy-makers and clinical leaders to assess, design and support implementation of their improvement project.
- **Pilot teams** assembled frontline clinicians and managers to carry out the improvement projects within select communities.

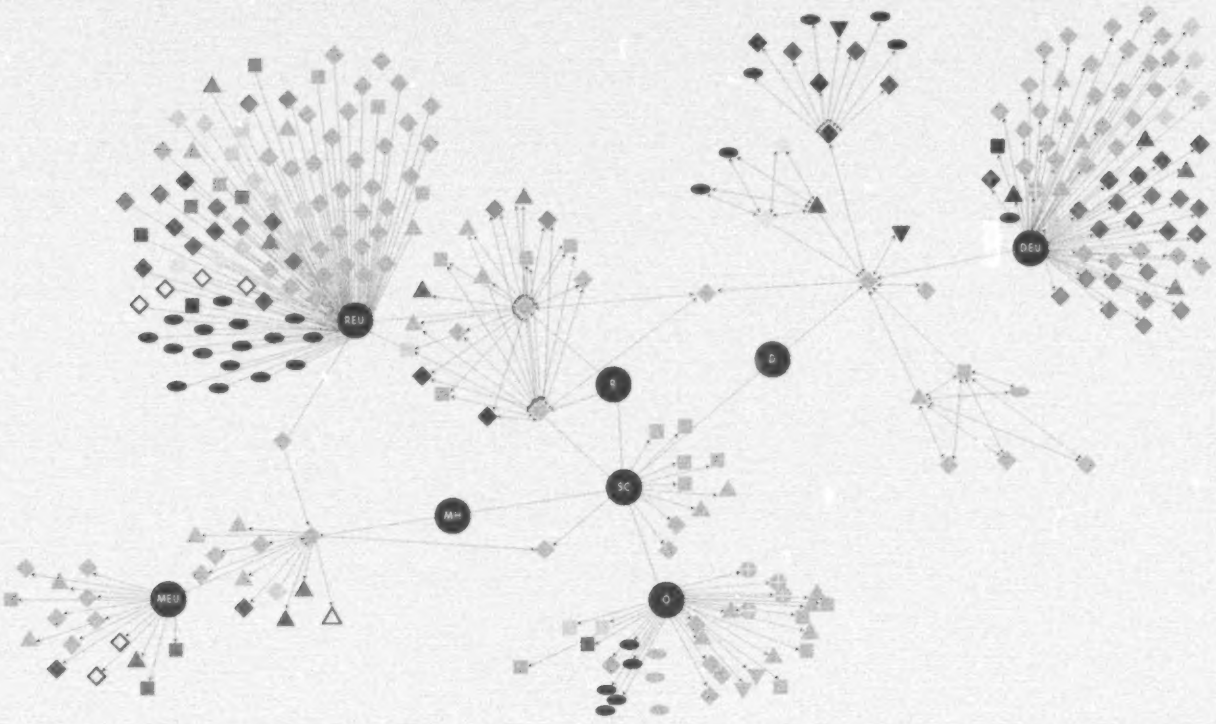
We can see the team lead is a hub within each branch of the network, with several interconnections between the branches. The steering committee and project leads are all primarily based in Yellowknife (STHA or YHSSA). There is a mix of directors and CEOs, managers, and practitioners amongst the steering committee and project leads.

The team branches include the 'end users': these are individuals who are outside of the originally indicated team members and steering committee. These people have had differing levels of touch with the collaboration: involvement on the project teams; adoption of practices from the project; or receipt of information on the project (at a workshop, conference, or through email).

As this map shows, based on available evidence, about 280 individuals have had touch with these projects to date, spanning the territory. Each node's color represents its location. The veritable rainbow seen here illustrates the reach of the projects. A rough estimation would identify about 150 individuals as 'aware' (conference attendees and email recipients) and 90 individuals as involved in the projects. The remainder (about 40) are 'guests' or 'support and faculty,' which indicates a definite awareness and possible involvement.

There is a broad mix of professionals, with a number of practitioners including nurses (73), physicians (35), educators, social workers, nutritionists, and counselors (29), specialists (5), coordinators and planners (18), totalling 160 practitioners. There are also managers, including supervisors (38), directors and CEOs (33), government-affiliated individuals (5) and researchers (5). Thirty-two are coded as 'others or unknown.' This shows clear inter-professional mixing within the collaboration, with a high level of involvement of healthcare practitioners within the territory.

FIGURE 2
Social Network Illustration of Project Touch by Pilot, Professional Role and Location



R Renal IP
D Diabetes IP
MH Mental Health IP
REU Renal End Users
DEU Diabetes End Users
MEU Mental Health End Users
SC Steering Committee and DHSS

Yellowknife and YHSSA
Inuvik
Hay River
Norman Wells
Sahtu Region
Tlicho Region
Beaufort Delta Region
Behchoko
Dehcho Region
Fort Smith
Fort Simpson
Other or Unknown

Practitioner
Manager
Other or Unknown
Researcher
Government
Director or CEO

FIGURE 2
Expanded Chronic Care Model

Working from both the prevention and treatment ends of the care continuum – and engaging community support as well as healthcare expertise – offers the best potential for improved long term health outcomes.

> Each improvement team brought together healthcare executives, policy-makers and clinical leaders to assess, design and support project implementation.

A strong evidence base

The Expanded Chronic Care Model (ECCM; Figure 2) provided the guiding frame for the CDM project. The ECCM shows how population health promotion and clinical health services can complement one another to improve the health of, and healthcare provided to, patients and communities.[1] The Department decided to focus on four ECCM elements that are essential in the management of chronic disease:

- **Self management** – Recognize patients as experts in their own care and develop their skills and confidence to manage their condition through education, coaching and linking to resources.
- **Health system design** – Coordinate care, use practitioners to their full scope of practice, and improve access to care.
- **Decision support** – Establish evidence-based guidelines to ensure that quality care is consistently delivered by all healthcare providers.
- **Information systems** – Effectively gather, share and use information and data.

The Department used tracer methodology* to examine each of these elements strictly in the context of the targeted conditions: diabetes, renal disease, and mental health. In tracer methodology, patients are followed through the continuum of care, and the systems of care are reviewed. The process helps uncover problematic practices, policies and other intrinsic issues that result in fragmented care – many of which are common among various chronic diseases.

* Kessner tracer methodology (1973)

The IPs pinpointed specific aspects of each ECCM element where the Department believed chronic disease improvements were achievable:

- Diabetes IP: Self-management support – the integration of self-management support into regular care
- Renal IP: Decision support and information systems – clinical pathways and service agreements as coordination tools in health system design
- Mental health IP: Health system design and decision support – the use of clinical practice guidelines in decision support; and the use of the NWT's new EMR information system as a patient database

The aim of the IP evaluation is to generate lessons learned about how small-scale improvement projects can be used to build local capacity in chronic disease change management – and about the impact they have on the quality of services and care. The evaluation of the CDM project addresses a mix of implementation, quality and performance improvement questions (see Appendix I for detailed evaluation methods).

> With IP implementation complete, the Department is ready for the next step in the creation of a territory-wide integrated CDM strategy.

Informing effective strategy development

With IP implementation complete, the Department is ready for the next step in the creation of a territory-wide integrated CDM strategy. This step involves not only identifying opportunities for synergy with other system improvement initiatives, but also developing a clear understanding of the IP outcomes and the cross-case implications and lessons that will inform design of the strategy.

This report evaluates the activities, professional and organizational changes, and patient and system outcomes related to phases I and II of the diabetes, renal disease and mental health IPs. The Department will draw on the report's findings to spread and scale the most effective components of these improvement projects throughout NWT and contribute to the development of an effective, integrated and over-arching CDM strategy based on best practices and sound evidence.

SPREAD AND SCALE

Each pilot was meant to not only achieve incremental change in the management of a specific disease, but also present lessons for improvement that could be spread and scaled in the treatment of other chronic conditions. Spread and scale are essential to the success of an integrated CDM strategy:

- *Spread* refers to the diffusion of innovations and the broad acceptance of an approach. The spread of pilot improvement is already taking place through staff support for the pilots and adoption of many improvements in daily practice.
- *Scale* refers to the increasing size of an improvement initiative from limited application in specific sites to full application across NWT. With the progressive engagement of more patients, staff, communities and HSSAs comes the need to manage complex structural issues related to growth.

Discussion and Recommendations

This section presents and examines recommendations for the CDM project in relation to the four key elements within the health system component of the expanded chronic care model (ECCM): self management, health system design, decision support and information systems. Each section explores the value of the ECCM element and proposes conditions for its spread and scale throughout NWT. Value, however, is not addressed with respect to financial efficiencies – the relationship between costs incurred and outcomes achieved. Although efficiency is a prime concern for decision- and policy-makers, there are several reasons to be cautious about its estimation in the early experimentation of improvement projects.

First, efficiency must be assessed on the basis of validated outcomes. This assessment is difficult in the early phases of experimentation, since outcomes often take time to produce. The three NWT pilot projects have made some progress towards improved outcomes, but it is much too early to speculate about the impact that may result if the projects were implemented on a wider scale. As the pilot summaries will show, the IPs also resulted in a number of unexpected and unintended impacts as they were implemented.

Second, analysis of efficiency requires estimates of costs; yet the costs that are of ultimate interest are not those incurred in the pilot projects, but costs that would be incurred if projects were scaled up. Pilot-project costs are often skewed by intrinsic inefficiencies, such as the learning curve associated with training of staff and adoption of tools in the CDM pilots. As the pilots are scaled and spread, integrating the lessons learned about these inefficiencies will help to increase the effectiveness and sustainability of an integrated territorial CDM strategy.

Exploring cross-case benefits

Given the ultimate goal of an *integrated* chronic disease strategy, the ECCM elements should be assessed collectively and comparatively for their relevance to all chronic diseases. For example, self management was examined in the context of diabetes, but offers immense potential in the treatment of other diseases. The renal IP dealt with information systems and decision support, which promise vast improvements in virtually every aspect of healthcare. Standardized clinical referral and information sharing pathways were assessed within the mental health IP, yet the benefits of these tools could improve many other aspects of chronic care.

Each IP was carefully structured to optimize project benefits system-wide. The Department considers this cross-case approach essential to design a truly integrated CDM strategy.

A summary of recommendations at the end of this section helps convey the over-arching value of the entire CDM project.

Self management

Recommendation #1: Self-management support (SMS) should become standard practice for all primary care staff in NWT.

The value of self-management

SMS is recognized in the expanded chronic care model (ECCM) as an essential component of the healthcare system. CDM literature suggests self-management contributes to changes in patient behavior, including reductions of up to 80% in patients' visits to health services.[2,3,4] SMS helps patients develop effective personal health and wellness skills.[5] With greater understanding of their condition, they are better able to engage in the decision-making and daily practices that lead to successful clinical outcomes.[6] SMS also responds to the need for a more inclusive, client-centered and efficient approach to healthcare. People are living longer with complex, ongoing chronic health conditions that cannot be cured but can be managed appropriately to reduce the impact on overall health, quality of life and health system costs.[7] Thus a fundamental assumption of SMS is an emphasis on enabling lifestyle changes to impact these areas, which can positively influence multiple chronic conditions that the patients may be experiencing.

Jurisdictions across Canada are increasing patient-centered, collaborative care to address rising rates of chronic diseases. CDM project results are consistent with findings from various studies, some of which show SMS has the second-strongest evidence base after delivery system redesign for improving chronic disease management.[8] In NWT, the IPs showed that SMS training is an effective way to help care providers build strong patient relationships. Significant results associated with a number of projects indicate value in the continued use of SMS at both the community and health system levels.[9] Specifically, the diabetes IP showed changes and improvements to professional and organizational practices, as well as services and patient care (Table 1).

Staff in the IPs quickly achieved improvements and changes in both professional and organizational practice despite competing priorities. By the end of the piloting phase, integration of SMS into regular care had improved. Many staff considered SMS to be integrated and advocated for the continued spread of the practice to other chronic disease areas.

These positive early outcomes align well with the literature in supporting the continued integration of SMS territorially. The pilot results suggest expanded SMS training and practice would be received well by staff, and deliver rapid results including patients with more control of their symptoms, better overall health and a greater willingness and ability to partake in the management of their own illness.

Conditions for spread and scale

The Health Council of Canada suggests that enabling staff to deliver SMS as a routine part of care is key to establishing SMS as standard practice.[10] Support for staff takes many forms, including appropriate education.

Effective training

Care providers need appropriate education and training.[11] Although staff expressed some concerns about the complexity of the 5As training approach and the time it required, most considered it useful and applicable for patient care. To refine the training, the Department may wish to blend the 5As with other SMS training techniques such as motivational interviewing to create guidelines that are contextually relevant in NWT – an approach endorsed in the literature.

TABLE 1
Summary of Diabetes Pilot Improvements and Outcomes

	PROFESSIONAL / ORGANIZATIONAL PRACTICE	QUALITY OF CDM SERVICES AND PATIENT CARE	DELIVERY OF HEALTH SERVICES
GOALS	• Accessible, consistent multidisciplinary services • Integration of SMS	• Improve continuity of care • Establish SMS • Improve access to care • Improve information systems and data collection	• Improve continuity of care • Establish SMS • Improve access to care • Improve information systems and data collection
PAST PRACTICE	• No set standards • Limited or no use of SMS	• Lack of SMS within diabetes care	• Lack of SMS within diabetes care
CHANGES TO DATE	• Provider commitment to continuing with SMS • Changed mindset regarding CDM • Uptake and spread of SMS tools beyond pilot staff • Attitude change and new philosophy of practice • Greater client engagement and collaboration between provider and patient	• Collaboration with clients • Increased use of SMS within practice • Improved client engagement	• Patient-centered approach to care • Focus on prevention and management

SMS training has the potential to be a critical human resource tool in NWT, where employee turnover in health and social services was 16.4% in 2010.[12] Standardized training procedures would help managers accommodate staff movements in and out of the system, and likely aid retention. Staff suggest training could be improved with more opportunities for self-led e-learning that could be undertaken in home communities. Other training techniques (group learning, mentorship and reinforcement) could further advance the knowledge and confidence of care providers in using SMS. In addition, it is important to acknowledge that leaders within the health and social system must also be trained in the practice so they can help create a culture of SMS.

Increase engagement

The success of using SMS to increase patient participation suggests the potential of even greater collaboration; specifically by welcoming communities into the circle of care. For example, the IP indicated the need to engage Aboriginal communities in the development and application of SMS training. Respect for the nuances of language and culture will help build an SMS program that is relevant to the people of the NWT, leading to increased engagement in care. As the Department examines options for scaling and spreading SMS, serious consideration must be given to the effective and meaningful engagement of Aboriginal communities and leaders, as well as patients and their families, as key stakeholders in future SMS work.

While more community engagement promises dividends for SMS, greater clinician collaboration also has the potential to sustain the benefits of the practice.[13] Evidence from the pilots indicates inter-disciplinary case management, for example, would provide a consistent, formalized approach in which clinicians could come together to share information and discuss patient care.

Ensure appropriate resourcing

Early indications of potential cost savings and efficiencies as a result of the IPs suggest SMS may decrease chronic disease expenditures in the NWT by reducing the number of acute episodes and increasing the time available for prevention and management.

Appropriate resourcing is essential to ensure that SMS is sustained and expanded throughout NWT. The IP suggest this resourcing takes two forms:

- Funding to standardize and deliver SMS training and ongoing re-orientation.
- Creation of additional positions – specifically, primary and community care providers, such as community health nurses (CHNs) – so that a staff position is dedicated to providing leadership and clinical expertise in the integration of SMS, and to oversee regular reviews of the practice to ensure it remains current.

With the proper training, engagement mechanisms and resourcing, NWT can effectively expand the use of SMS and reap the full benefits of the practice: positive shifts in patient attitudes and behaviours, improved quality of life for patients, more efficient care through greater clinician collaboration, and reduced demand on the healthcare system.

Health System Design

Recommendation #2: Adopt standardized policies and pathways for clinical referral and information sharing.

Recommendation #3: Support the use of integrated case management practices for patients with complex chronic care needs.

The value of health system design

Improving the lives of those living with chronic disease requires a radical shift in the delivery of health services in NWT. The system must change from one that is reactive and propelled by crisis to one that is proactive and inspired by prevention.[14, 15] As one staff observed, healthcare providers must "become advocates for health rather than simply part of the repair service."[16]

Supported by CDM literature, the mental health improvement pilots addressed clinical referral and information sharing pathways as a first step in improving health system design. Staff consider standardized pathways critical to improve continuity of care as patients move between community-based and inpatient mental health services. These transitions are complicated by the act that in order to receive inpatient, outpatient, and community services, clients must move between organizations and Health Authorities which do not follow common practices yet must collaborate to optimize care.[17]

TABLE 2
Summary of Mental Health Pilot Improvements and Outcomes

	PROFESSIONAL / ORGANIZATIONAL PRACTICE	QUALITY OF CDM SERVICES AND PATIENT CARE	DELIVERY OF HEALTH SERVICES
GOALS	Improve: • communications • referral processes • handoffs • flow of information	• Increase continuity of care • Establish clear care pathways • Improve support for clients • Incorporate community, regional and territorial providers	• Increase continuity of care • Establish clear care pathways • Improve support for clients
PAST PRACTICE	• Limited communications • Non-standard referral process • Missed patients or patient care • Limited information flow	• Lack of communication • Missed clients • No treatment	• Lack of process and standardization • Differences in care provision
CHANGES TO DATE	• Support for process • Improved communication (use of process to send information checklist) • Change in practice • Posting and use of referral pathways • Self-initiated retraining	• Data not available	• Data not available

Table 2 shows positive changes to professional and organizational practice after just six months of project implementation, even though the pathways were used to process only two patients. Most IP staff are using the mental health care pathways, which are credited with helping to bridge the historical divide between Health and Social Services within the Department and the Authorities. Inter-branch communication has increased, creating opportunities for more interdisciplinary care and better flow of patient information – results that are consistent with the CDM literature.

Conditions for spread and scale

Despite the preliminary success of the mental health improvement projects, the limited patient intake due to small community size suggests that wide adoption of the pathways should be closely monitored to determine conclusively that they are improving care and patient experiences. With their benefits confirmed, the Department can then look at opportunities to modify and expand the care pathways to other chronic disease areas – starting with those with high variability and poor continuity of care.

Decision support

Recommendation #4: Integrate the use of evidence-based standardized clinical practice guidelines (CPGs) for other chronic diseases.

Recommendation #5: Establish clear guidelines and pathways for patient consent and information sharing.

The value of decision support

CDM literature indicates that healthcare providers need a range of decision support tools to enable expert, evidence-based and timely clinical management and self-management support. These tools include CPGs, which are useful when embedded in daily practice and updated regularly to ensure they keep pace with evolving best practice.[18] CPGs are also helpful self-management tools for people living with chronic conditions. Patients who discuss CPGs with their care teams and integrate them into their care plans are more likely to follow medication regimes, change unhealthy behaviours and agree to recommended tests and screenings.[19]

The renal improvement project demonstrated that the integration of CPGs delivers significant outcomes in a relatively short period of time. The use of CPGs helped identify patient populations, properly manage referrals and intake, and create standardized practice (Table 3).

Given preliminary success of the renal CPGs, the Department should assess other chronic disease areas that could benefit from adapting the guidelines or undertaking a similar evidence-based development process.

Evidence shows that the use of CPGs can slow the progression of chronic kidney disease and deliver significant cost savings over time.[20] CPG implementation was largely achieved within current resources and with significant use of staff time.

Conditions for spread and scale

CDM literature suggests that implementation of decision support and clinical information systems should take place only when self-management support has been established and fundamental changes have been made to delivery system design.[21] Future costs will likely be incurred to establish appropriate staffing support and a patient registry to collect and monitor patient data; however, developing standardized CPGs for other disease areas could deliver added efficiencies and help offset future costs while focusing on chronic disease prevention and management. The Department's CDM project has made measureable progress toward meeting these conditions; namely by establishing territory-wide renal CPGs, and through an agreement to spread SMS as a standardized approach to patient care.

Territorial Guideline Development

When Department staff were seeking endorsement for the renal guidelines, it became obvious that there was no formal process in place to approve and endorse Clinical Practice Guidelines for use throughout the territory. Having witnessed the preliminary improvements achieved by the renal CPGs, it was anticipated that CPGs and standards would be developed in the future that would also require formal endorsement prior to implementation. In order to standardize and streamline this process, the Department has created the Clinical Practice Steering Committee, whose membership includes representation from the Medical Directors and Nursing Leadership Forums, Office of the Chief Public Health Officer, clinicians, and Department staff. This committee will work to provide a coordinated and centralized approach for the approval of clinical standards, protocols and practice guidelines across the NWT.

TABLE 3
Summary of Renal Pilot Improvements and Outcomes

	PROFESSIONAL / ORGANIZATIONAL PRACTICE	QUALITY OF CDM SERVICES AND PATIENT CARE	DELIVERY OF HEALTH SERVICES
GOALS	Improve: • referral processes • handoffs • flow of information	• Increase continuity of care • Establish clear care protocols • Improve support for patients • Incorporate community, regional and territorial providers	• Increase continuity of care • Establish clear care protocols • Improve support for patients
PAST PRACTICE	• Limited communications • Non-standard referral process • Missed patients and patient care • No patient database • Limited information flow	• Lack of communication • Missed clients • No treatment	• Lack of process and standardization • Differences in care provision
CHANGES TO DATE	• Support for CPGs • Use of standards • Notable changes in practice • Better management of patients in their communities • Relationship building • Staff member trained to manage patient database	• Relationship building • Identification of patient population • More consistent care • Standardization of care	• Identification of patient population • More consistent care • Standardization of care

Clarifying issues of consent

Information sharing between members of a care team is essential for optimal patient outcomes. Yet evidence from the mental health improvement project indicates that development of the project pathways highlighted gaps in understanding and practice related to patient consent to share medical information.

To address this, obtaining written consent was highlighted as the first step in the mental health referral and information sharing pathway once the client has made contact with the system.[22] In order to mitigate issues around obtaining consent while the client is in the crisis, the pathways indicate that consent should be obtained as soon as possible for present and future care planning. To further support increased understanding of consent and information sharing practices, training sessions on implementing the pathways discussed issues of consent and emphasized obtaining consent proactively while the client is in a non-crisis state. That being said, evaluation of the pilot project has demonstrated that staff remain generally confused about when consent should be obtained and by whom.

Offering ongoing training on the referral and information sharing pathways and ensuring that all relevant staff attend this training will help to alleviate some of this confusion. Case management practice and interdisciplinary care teams would also improve consent and information sharing practices. Prearranged care coordination agreements, if properly implemented, could facilitate regular information sharing among providers.[23] Following the pathway, these agreements are drafted when a patient is able to provide consent and ensure that clinicians have the medical information they need to provide the best possible care in crisis situations.

In addition, the Department should develop guidelines that clearly articulate appropriate procedures for obtaining consent and sharing patient medical information, as well as the ethical and legal considerations related to clinical practice, organizational policy and territorial legislation. Looking to other jurisdictions which have already established such legislation could be a good starting point in the design or adaption of such legislation for their own local context. Continued emphasis on staff training on mental health referral and information sharing pathways and improved case management will promote more efficient care and effective communication between providers and inter-territorial and territorial-provincial care teams.

Information Systems

Recommendation #6: Establish standardized data collection and monitoring for all CDM initiatives.

Recommendation #7: Align future CDM work with the development of a territorial clinical information system.

Value of clinical information systems

Evidence from both the literature and the pilot projects indicate that clinical information systems are critical to support effective CDM strategy development. Their importance is well recognized as central storehouses of information related to population health data, client registries and electronic health records. But these systems may be of even greater value in sharing, interpreting and applying data to support and sustain long-term improvement initiatives, plan new programs, evaluate established ones and support new ways of working.[24]

Conditions for scale and spread

Efforts to scale and spread components of the pilot projects depend on accurate and comprehensive collection and monitoring of population data and, consequently, a sound technical and organizational infrastructure: hardware and software systems, performance and evaluation frameworks, etc. The CDM project, however, highlighted a lack of consistent patient population data currently available within NWT. The overall size and typical clinical trajectories of the patient populations in all three improvement projects were largely unknown.

In response, the Department is examining opportunities to align the CDM project with the electronic medical records (EMR) initiative currently underway in the NWT. Launched in 2012 in collaboration with Canada Health Infoway, this initiative will deploy a territory-wide EMR system over five years to give care providers protected access to patients' lab, diagnostic imaging and hospital information.[25, 26] Until the EMR is fully deployed in 2017, the Department will have to consider other ways to support communities not yet linked to the system.

Given the seriousness of chronic disease and the high priority of the integrated CDM strategy, the Department will focus on the EMR's capacity to identify patient populations as the system is expanded across the territory.

Summary of Recommendations

TABLE 4
Summary of Recommendations

KEY ELEMENT (ECCM)	RECOMMENDATION	RATIONALE	NECESSARY CONDITIONS
SELF-MANAGEMENT SUPPORT (SMS)	SMS should become standard practice for all primary care staff in the NWT.	• Effective capacity building tool for clinicians • Creates more meaningful relationships between patients and providers • Focuses on prevention and management rather than acute care	• Standard approach and guidelines • Contextualized and tailored training • Standard orientation and re-training • Strategies to facilitate patient and provider engagement • Sustainable resourcing to support scale and spread • Appropriate monitoring and evaluation
COORDINATION (AS A COMPONENT OF HEALTH SYSTEM DESIGN)	Adopt standardized policies and pathways for clinical referral and information sharing.	• Increases appropriate patient flow and referral • Increases communication between providers creating opportunities for more interdisciplinary care	• Effective training and orientation processes • Standardized training and orientation • Sustainable resourcing to support scale and spread • Appropriate monitoring and evaluation • Strategies and opportunities to facilitate more interdisciplinary case management
	Support the use of integrated case management practices for complex patients.	• Supports prevention and management • Creates opportunities for increased communication and interdisciplinary care	• Sustainable resourcing to support scale and spread • Provision of care teams • Appropriate monitoring and evaluation • Align with other initiatives that support the uptake of case management

DECISION SUPPORT	Develop and pilot standardized clinical practice guidelines for other chronic diseases.	• Useful clinical decision-making tool • Helps define patient population	• Identify patient populations • Effective training and orientation processes • Appropriate monitoring and evaluation
	Establish clear guidelines and pathways for patient consent and information sharing.	• Helps standardize information sharing pathways • Builds relationships between providers and services • Improves flow of patient information • Improves patient experience and quality of care	• Provision of care teams and case management • Established, standardized guidelines for all staff
INFORMATION SYSTEMS	Establish standardized data collection and monitoring for all CDM initiatives.	• Regular measurement and feedback is key to creating and maintaining quality care • Aid in assessing future cost saving and improvements in quality of care.	• Standardized approach to evaluation and monitoring • Dedicated resources to support end-to-end evaluation of initiatives • Integration with DHSS evaluation department to ensure standard and reporting requirements are met
	Align future CDM work with the development of a territorial clinical information system.	• Information systems are effective tools for gathering, sharing and using information and data • Data stored in information systems can be used to make the case for new programs, evaluate established ones and support new ways of working	• Track performance of guideline-informed care and receive feedback on performance for evaluation and continuous quality improvement • Align CDM work with EMR Initiative • Establish client portals at all care sites within the territory

Change Management Issues: Recommendations for Governance

CDM improvement work in NWT is based on five principles:

- The design of the CDM strategy should build on both scientific and local evidence and best practices.
- Design and implementation of CDM improvements should engage a wide range of stakeholders.
- Design and implementation should take a participative bottom-up approach with top-down guidance.
- Large scale improvements can be achieved through an incremental process.
- Improvement is a collective learning process that builds on experimentation and the evaluation of potential solutions.

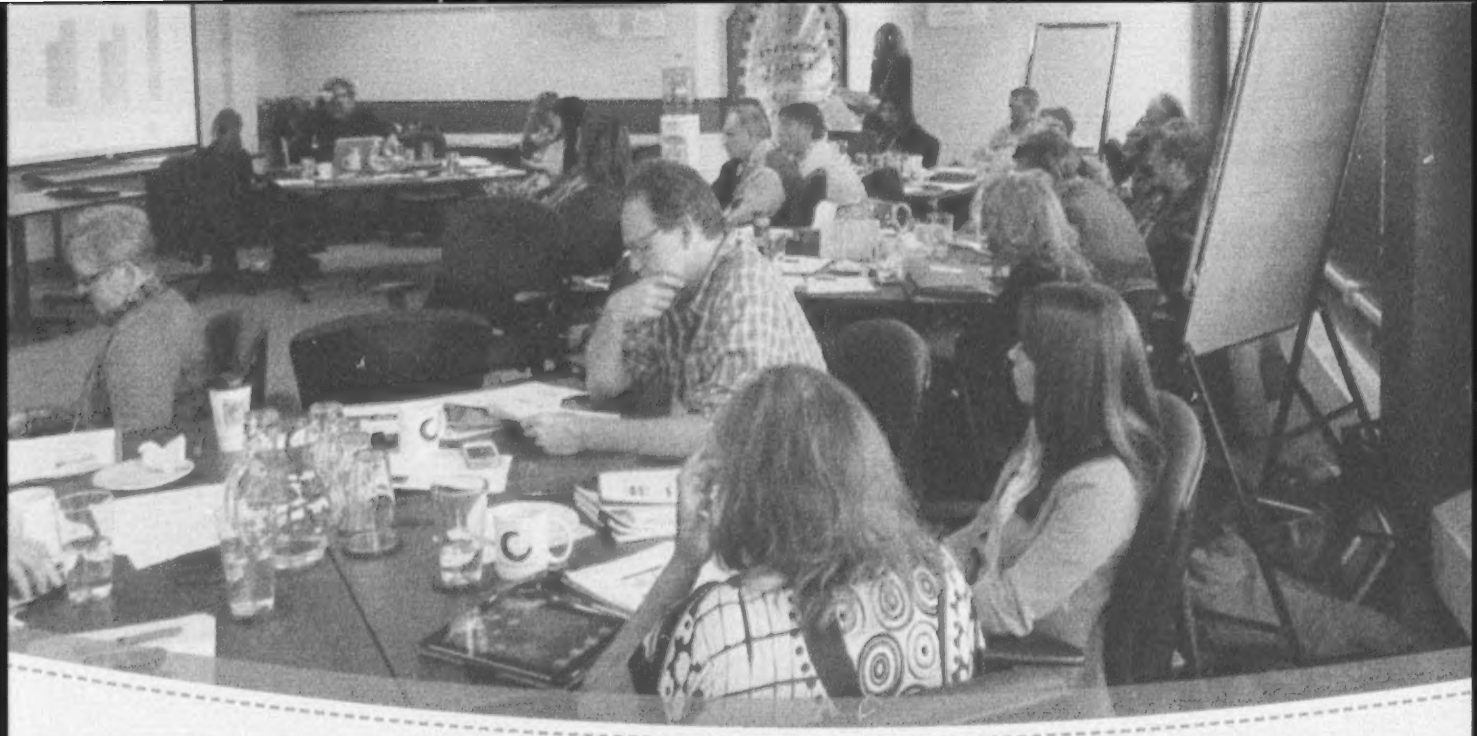
The Department believes that the design and execution of the three pilot projects constitute significant steps towards CDM improvement in NWT. Project evaluation has, however, highlighted several factors that must be addressed to continue CDM improvement and sustain change that is underway. These factors relate to communication, program monitoring and evaluation, and the availability of resources.

Communication

Many project participants were unclear about roles, responsibilities, expectations, timelines and next steps. This lack of clarity stems from inadequate communication at multiple levels: between the Department and team leads, and between team leads and team members. It also reflects the complex matrix management nature of the NWT health and social services systems. Sustaining and expanded improvements rely on effective communication to convey not only high-level messages related to vision and strategy, but also vital project details on a day-to-day basis. It also relies on the capacity to absorb communications that are sent. The Department acknowledges the need to clearly articulate all messages related to CDM improvement and is committed to enhancing communication to inform stakeholders, build their communication capacity and gain their full support.

Monitoring and evaluation

Evidence from the literature and all three improvement projects indicates the importance of appropriate program monitoring and evaluation to assess future cost saving and improvements in quality of care. Some pilot projects created effective evaluation tools to monitor the work and establish baseline data (e.g., diabetes pre- and post-assessment tools). Others struggled to establish evaluative processes, resulting in a lack of evidence and an inability to share changes and outcomes.



As a result, standardized evaluative tools and processes for CDM initiatives need to be established at the outset of work and carried out in a consistent manner throughout the project.[27] A continuous quality improvement loop enables practice teams to measure performance, identify gaps in care and make incremental, evidence-based practice adjustments.

Resource availability

The pilot projects were undertaken mostly by current staff who took on additional tasks and responsibilities with limited additional funding. Although the lack of financial resources, time and staff impeded pilot project implementation, these shortages may pose proportionately greater obstacles to the scale and spread of the improvement work. If improvement is indeed a priority, it should be reflected in resource allocation.

Building leadership capacity

Strong and committed leadership is essential to address challenges and carry out successful change. According to Kotter,[28] such leadership involves:

- creating a climate for change by creating a vision, establishing a sense of urgency, and forming a powerful guiding coalition
- enabling change by engaging stakeholders, communicating the vision, empowering change agents and creating short-term wins
- consolidating incremental improvements to achieve greater change and institutionalize new approaches

This evaluation shows NWT has the CDM vision, the engaged stakeholders and the short-term wins. Through its emerging integrated CDM strategy, the Department now looks to reaffirm the project's sense of urgency, strengthen its guiding coalition, clearly communicate its vision, identify change agents and empower local champions by removing obstacles and allocating appropriate resources. Institutionalized change will be secured as improvements accrue and staff adopt new tools and approaches as standard components of patient care.

Conclusion

The aim of chronic disease management is to improve the quality and outcomes of patient care. Figure 3* lists the key elements of CDM improvement and the dimensions of quality associated with each element. The Department believes that recommendations formulated on the basis of the pilot-project evaluations constitute a comprehensive and sound approach to the improvement of CDM in NWT.

FIGURE 3
Key elements of CDM improvements

SYSTEM REDESIGN

To improve comprehensiveness
- Transdisciplinary teams
- Non-physician providers

To improve coordination of services and continuity of care
- Case management
- Clinical pathways & service agreements

To improve access
- Advanced access
- Max packing
- Telehealth

To provide incentives for access and efficiency
- Rostering

SUPPORT FOR SELF-MANAGEMENT

To improve appropriateness, comprehensives, continuity and outcomes
- Integrated into regular care

DECISION SUPPORT

To decrease practice variations and to improve conformity to standards
- Clinical practice guidelines

CLINICAL INFORMATION SYSTEMS

To improve continuity and comprehensives and to enable evaluation

LEADERSHIP FOR IMPROVEMENT

To enable implementation

COMMUNITY PARTNERSHIPS

To improve appropriateness and patient-centeredness
- Customer governance

To improve appropriateness and efficiency
- Working with community groups

To improve comprehensives and coordination
- Integration of health care & social services

To improve outcomes
- Healthy public policies

* Figure 3 was adapted from Kreindler (2009) and designed by lead faculty Francois Champagne.

In terms of system design, CDM in NWT is already based on the use of multidisciplinary teams and on the transfer of some functions from physicians to other care providers. Use of case management when appropriate and of clinical pathways should be considered in the short term (recommendations 2 and 3) to improve coordination of services and continuity of care. Other elements of system redesign were not considered in this CDM improvement project due to small capacity of the pilot projects. Access and efficiency, for example, were not considered priorities at this time but could be addressed at a later point in the incremental improvement process the Department intends to pursue.

Implementation of self-management (recommendation 1) is intended to increase appropriateness of services and improve comprehensiveness and continuity of care, and eventually clinical outcomes. Results from the pilot projects suggest benefits will also accrue from the wider use of clinical practice guidelines (recommendation 4) and clinical information systems, including patient registries (recommendations 5, 6 and 7). These recommendations should lead to a reduction in practice variations and to improved continuity and comprehensiveness of care.

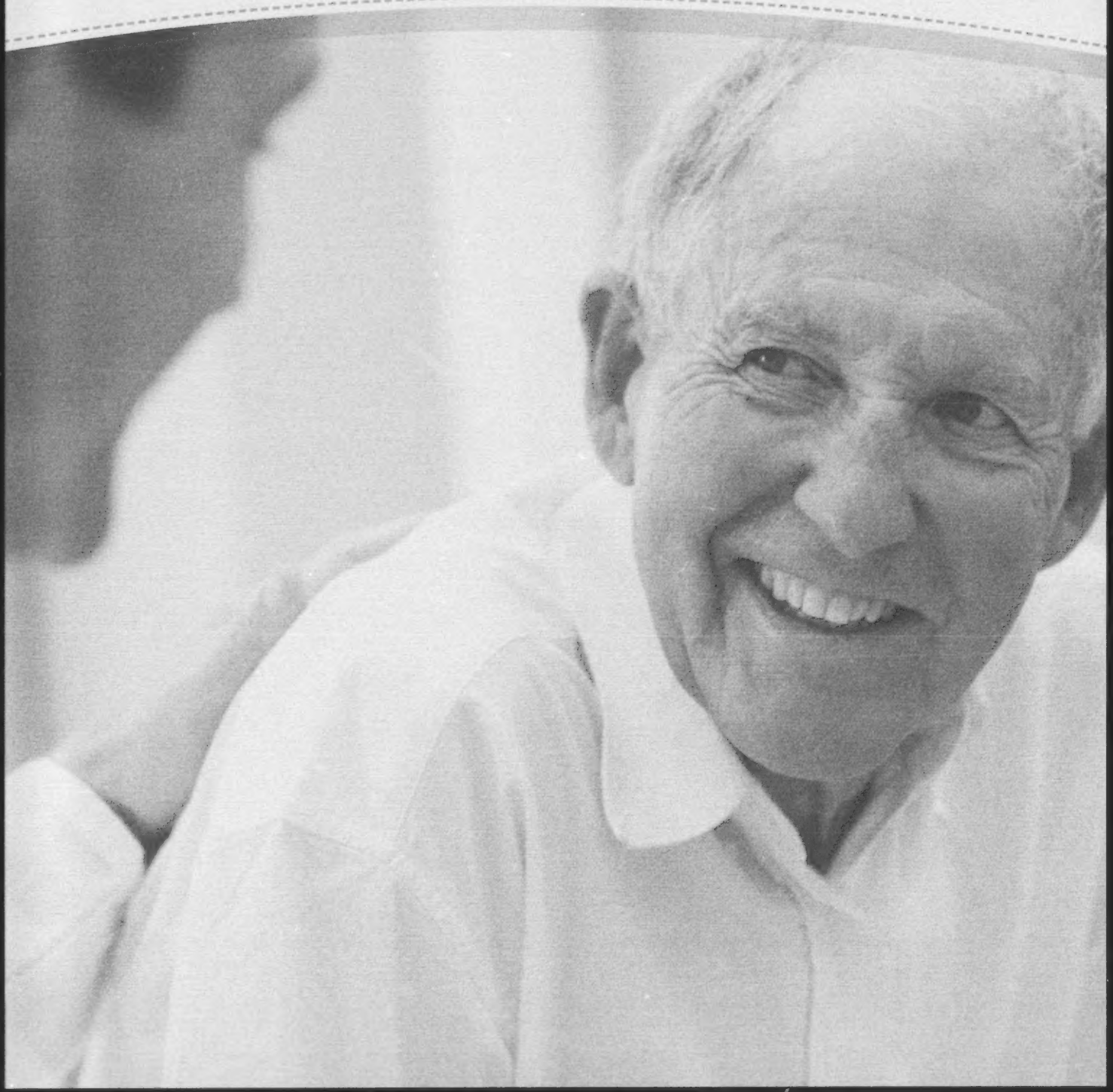
The Department is committed to providing the leadership that is essential to implement and sustain further changes in CDM. The Department is also committed to the use of inter-professional care models, and to primary care development and community partnerships. Change efforts to date have focused on improvements in healthcare delivery. Comprehensive chronic disease management and implementation of the full ECCM will also require action at the community and policy levels.

Efforts will be made to increase community involvement in the move towards effective chronic disease management. Community leaders can play a central role in raising awareness about chronic conditions, reducing stigma and advocating for better healthcare. They can participate actively and provide a crucial perspective in the development of strategies to support community members living with chronic conditions. They can also mobilize community resources (financial, human and material) to help improve CDM. Through community involvement, CDM will become more patient-centered and services will be better adapted to the needs of the population.

Community organizations can play an important complementary role in the delivery of preventive and treatment services. The Department envisions working closely with community groups to better adapt CDM to local needs. As a result, the Department recognizes that in addition to the seven over arching recommendations, the Department will need to prioritize opportunities to engage and collaborate with patients, families, Aboriginal populations and communities to ensure that future CDM initiatives are effective and relevant.

The Department recognizes that CDM improvement will require better integration of policies and financing across the boundaries of specific diseases, across levels of care and care settings, across the care spectrum – from prevention and promotion to cure and rehabilitation – and across health and social sectors. It is clear that improved outcomes will require acting on wider determinants of health in partnership with other levels of government. The development of healthy public policies, including appropriate legislation and regulations, should be a priority to prevent

Diabetes
Self Management



The Context

As in the rest of Canada, the prevalence of diabetes is on the rise in NWT. Approximately 5.2% of the population was living with the disease in 2009.[29] With approximately 200 new cases diagnosed each year, patients with diabetes represent a significant proportion of overall hospitalizations. Costs to detect and treat the disease and its complications are a mounting healthcare burden.[30] Between 2008/2009 and 2010/2011, diabetic patients accounted for 9% of unique patients, 10% of discharges, 16% of bed days and 15% of overall costs.[31]

> **Patients with diabetes represent a significant proportion of overall hospitalizations.**

Indirect costs are also increasing. For example, the loss of productivity due to illness, injury, disability and premature death weighs heavily on governments, employers and society.[32] Clearly, alternative approaches are needed to reduce the incidence of diabetes and improve its treatment.

Exploring solutions

Self-management support (SMS) is the systematic provision by healthcare staff of education and support to increase patients' skills and confidence in managing their health problems. SMS activities include regular assessment of patient progress and problems, and helping them set realistic goals.[33] The use of SMS helps improve patients' willingness to make lifestyle changes, ensuring they adopt positive behaviours, become more involved in decisions related to their care, and receive information and skills they need to manage their condition.[34, 35]

The Department's diabetes improvement team understood the value of SMS – and that healthcare staff throughout NWT lack accessible, consistent education and training in its practice.[36] During CFHI's training workshops, the team decided its goal would be to build the capacity of primary care teams to provide self-management support to people with type 2 diabetes in three pilot communities: Behchoko, Norman Wells and Yellowknife.[37]

> **Our goal: build the capacity of primary care teams to provide self-management support to people with type 2 diabetes.**

PATIENTS AND PROFESSIONALS IN COLLABORATION

Emerging evidence suggests that positive outcomes are associated with strategies co-created or co-led by patients and healthcare professionals.[36] The Canadian Diabetes Association, for example, sees SMS as fundamental to the care of all diabetes patients and most effective when ongoing education and comprehensive healthcare occur together.[37]

The pilot phase began in June 2012 and was completed in March 2013. Nearly 20 frontline and department staff were involved in three specific activities:[40]

- Creating a self-management training package
- Delivering virtual and in-person SMS training to primary care service teams (also known as pilot teams)
- Implementing SMS activities as part of routine care in each pilot site

Our approach

The improvement team began by identifying appropriate outcome measures and SMS training methods. The team selected the 5As based in part on its effectiveness and wide adoption for providing support to clients with a range of chronic health conditions in primary care settings.[41] A five-step communication and action cycle – assess, advise, agree, assist, arrange – the 5As was originally developed as a smoking cessation strategy and is endorsed by the Registered Nurses' Association of Ontario (RNAO) as a clinical SMS best practice.[42]

Each pilot team worked within its current budget and with existing staff resources.

Providing support for innovation

Each pilot team worked within its current budget and with existing staff resources to carry out project activities. The Aboriginal Diabetes Initiative (ADI) Homecare Enhancement Fund contributed the only additional resources – $17,464.08 to cover costs associated with contracting an SMS training expert, and providing webinar and face-to-face training sessions.

In-kind staff time allocation was significant and invaluable (see Figure 4). Although staff time was not included in the budgeting of the pilot projects, it is an important consideration for the scaling and spread of SMS beyond the pilot projects.

On average in NWT, diabetes accounted for 9% of all hospitalizations, 10% of discharges, and 15% of costs ($8.7 million). The implementation of diabetes self-management programs present significant opportunities not only to improve patient's quality of life and reduce deterioration of their condition, but also to reduce healthcare costs to the system. The US

Department of Health and Human Services found that every dollar invested in self-management training helps reduce healthcare costs by up to $8.76.[45] This is an important consideration given the findings of a 2009 Canadian Diabetes Association study that indicate the cost of diabetes in Canada will triple between 2000 and 2020. Direct costs of diabetes include those related to hospitalization, incremental general practitioner and specialist fees, and medications.

However, this population is also at higher risk of hospitalization due to stroke, hypertension, heart attack, chronic kidney disease and lower limb amputations. Furthermore, the CDA study found that people with diabetes had twice as many visits to their family doctor or a specialist to address anxiety, depression, retinopathy, obesity, neuropathy, erectile dysfunction, and foot ulcers.

Training the practitioners

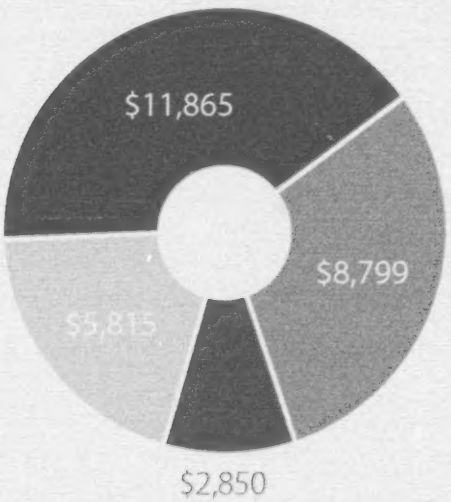
The Department contracted an SMS expert through an RFP process to deliver SMS training to pilot teams.[46] Dr. Patrick McGowan developed a series of four two-hour webinars and a one-day, face to face training session that included various SMS tools and SMS case scenarios. He also provided evaluation support of the training sessions and initial analysis of some of the outcome measures related to the pilot teams' attitudes, knowledge and skills in SMS.[47]

> **Participants who completed all training sessions received a certificate of completion of SMS from the University of Victoria.**

In total, 15 hours of staff training sessions were established. A one-hour orientation session in June 2012 introduced pilot team members to project activities and the webinar training platform. Webinar training

FIGURE 4

Cost Breakdown of Staff SMS Training



- Staff time (est.)
- SMS training toolkit development and delivery
- Project teams travel
- Logistics

TOTAL $29,329

Excluding third party funding for logistics, travel and the SMS expert, the Department estimates that in-kind time contributed by pilot team members to undertake the 15 hours of training amounted to almost $12,000 (based on 88% completion rate of training sessions by staff).[48] It is important to note that estimations for staff time include only time calculated to undertake the training sessions. Considerations for future training should take into account additional in-kind staff time associated with travel and pre- and post-workshop activities.[49]

took place during June and July 2012, and included four 1.5-hour sessions. The one-day, face-to-face workshop was held in Yellowknife in August 2012 (see Appendix II for full training session descriptions). Participants who completed all training sessions received certificate of completion of SMS from the University of Victoria.[48]

Each pilot team evaluated the SMS training and completed several outcome measures to provide evidence of their current practice, attitudes and knowledge and skills in the areas of SMS (see Appendix III):

- **Audit of best practice for chronic disease (ABCD)** – Measures how staff deliver different components of care that have been demonstrated to be important in the treatment of chronic illness (post data only)
- **Audit of provider self-management support skills** – Measures core skills staff need to provide SMS
- **The clinician activation measure assessment (CS-PAM)** – Assesses clinician's beliefs about patient self-management
- **Patient assessment of chronic illness care (PACIC)** – Evaluates extent to which patients receive care that is consistent with the elements of the ECCM

The pre- and post-training results of the audit of provider self-management support skills (Figure 5) indicated training helped the majority of practitioners feel more confident and better equipped to engage collaboratively with patients.[49] Specifically, practitioners were more confident about communicating with, setting goals with and providing solutions to patients.[50] The tools introduced in the SMS training were seen as easy to use and implement and helped change the way staff think and approach working with chronic disease patients. One participant observed that the tools helped provide "a greater focus on what the client is experiencing."

FIGURE 5

Pre- and Post-training Outcomes

Provider SMS Skills pre and post training (6 & 9 months)

Q1 Teach people to identify and solve their own problems?

Q2 Assist the person to focus on the problem only?

Q3 Assist the person to develop a SMART goal and a personal plan?

Q4 Use reflective listening, that is reflecting back to the person the meaning of what they have said?

Q5 Use open-ended questions to explore a persons readiness to change?

Q6 Ask appropriate questions or use scaling techniques to elicit readiness for change?

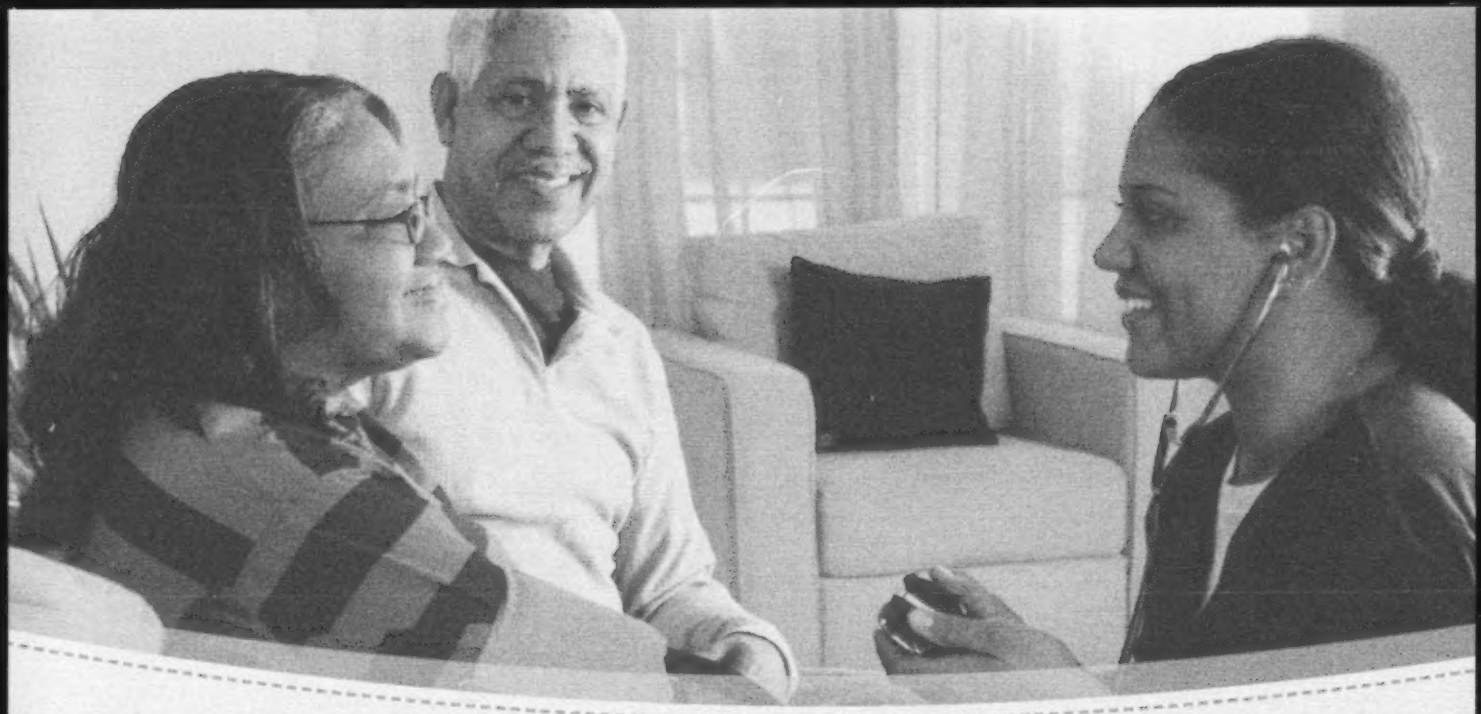
Q7 Match interventions and/or questioning to readiness?

Q8 Challenge people that are defensive, resistant or aggressive about changes in their health whilst maintaining a therapeutic relationship?

Q9 Use a depression screening tool during assessment?

Q10 Know what questions to ask people you think may be at risk of suicide?

Results from the training indicate significant increases in provider skills in a number of areas, including the use of a depression screening tool during assessment.



Feedback on training activities overall was positive. Staff had favourable learning experiences in the webinar process and felt the face-to-face training helped consolidate their understanding. Workshop feedback indicated that participants endorsed the structured approach, repetition of concepts and use of case examples. Participants also enjoyed the opportunity to develop new relationships with other pilot site teams.[51] Although participants had an overall positive experience with the training, some found the 5As approach to be complex and rigid. The majority of interviewees indicated that the training sessions demanded considerable time and competed with regular duties.[52] One interviewee suggested that the training could be compressed from five to two days.

Putting knowledge into practice

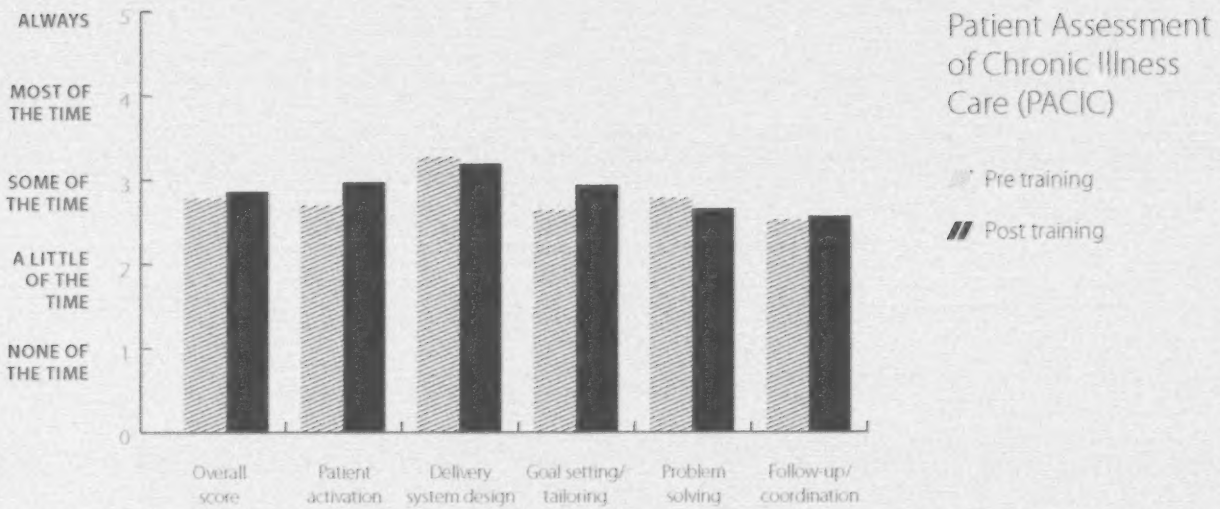
Following training, pilot teams applied their SMS skills working with diabetic patients. In implementation, leadership and staff turnover played a significant role. When appropriate leadership was accessible and engaged in the process, staff felt supported and were clear about roles and activities. When staff felt an absence of leadership, they struggled to understand their roles, disseminate information and communicate effectively amongst themselves.[53]

OPEN TO OTHER TRAINING APPROACHES

Although all staff interviewed support the use of SMS for diabetes care, some staff raised questions about the methods of training on the 5As approach. The time required to undertake the training was seen as onerous for some. Given other challenges – high staff turnover, prohibitive travel costs and limited human resources – the majority of interviewees suggested that a review of the current training methods should be considered to shorten or clarify the training process. Self-directed learning may be an appropriate alternative.

FIGURE 6

Pre- and Post-training Outcomes (PACIC)



PACIC evaluates the extent to which patients receive care that is consistent with the elements of the ECCM. Results show increases in the overall score, patient activation, goal setting and follow up. Decreases in delivery system design and problem solving may be related to the fact that respondents have a better understanding of the challenges of chronic care as a result of training. The decrease may also be related to the IP focus, which was the integration of skills into current practice and not delivery system design. It is common for scores to decrease when first repeated, especially when a tool is used before and after a period of focus on improving chronic care systems.

Staff turnover was also an issue as it resulted in change in some pilot leads and left some team members unsure who to approach when questions or challenges arose; however, most staff agreed that the Department project leads were critical champions to keep the three pilot communities connected and engaged in the project.[54] Overall, a clear message from staff is that the development of strong, committed and supportive leadership at the local and system levels is essential if SMS is to expand across multiple regions.[55]

Despite challenges related to changing leadership and staff turnover, the pilot teams were able to integrate SMS skills into their practice (Figure 6).

What we found

The diabetes improvement project has trained a cohort of frontline and department staff in SMS delivery through a standardized approach. Team members have emerged as champions for change in the delivery of care. Their support, through action, is advancing a quality improvement strategy that directly affects patient care and health outcomes.

> **Team members have emerged as champions for change in the delivery of care.**

The design and implementation of the pilot projects created opportunities for staff to build new relationships.[56] The overall process brought managers, senior department staff and frontline providers together, improved mutual understanding, and created common ground for sharing experiences and ideas.[57] One staff reported that the training had changed their approach to chronic disease.

Learning from the challenges

Like any improvement initiative, the pilot projects faced their share of challenges and barriers; however, each offers valuable lessons about how future training can be improved to facilitate greater uptake of SMS.

> **All three pilot teams identified staff turnover as a key challenge.**

Team members indicated a lack of clarity about the role of the pilots in the larger CDM project. Specifically, staff brought on just for the piloting phase had little or no knowledge of the work carried out before pilot implementation. They were largely unaware of the other two improvement projects in mental health and renal disease.[58]

All three pilot teams identified staff turnover as a key challenge.[59] As a result, SMS content, training and practice were lost. Competing workloads and workplace priorities made it difficult to find time and resources to orient new staff to SMS. In one pilot site, this combination of challenges led to the early deterioration of the pilot project. Only one primary care provider from the original team remained by the end of the pilot, and the team member was unable to train new staff. Nonetheless, support for SMS remained strong.[60]

Other pilot sites employed various strategies to mitigate the effects of staff turnover, including simplified orientation sessions for new staff.

Engaging multiple providers

Pilot teams found the participation of other healthcare providers, such as community health representatives (CHRs) and diabetic nurse educators (DNEs), vital to support SMS and engage patients at the community level.[63] These professionals work directly with patients and are ideally suited to introduce SMS concepts related to goal setting and action planning. In addition, pilot staff noted that physicians were generally open to SMS and encouraged the uptake of tools within

A SOLUTION WITHIN

Mandating SMS as a standardized practice across NWT would help address continuity of care issues related to staff turnover and workload. By nature, SMS helps build the capacity of diabetic patients to better manage their own care, reducing their reliance on healthcare professionals and the risk patients will stray from treatment plans when care providers change.[61, 62]

staff practice.[64] In Yellowknife, for instance, one doctor set staff goals on how many client action plans would be established within a set time. This helped secure vital project support from those who worked on the peripheries, outside the immediate pilot teams.[65]

Another staff highlighted the value of group work sessions with diabetic patients, which can advance self-management and increase community engagement in CDM by providing opportunities to share challenges and strategies for care.[66]

> **Action plans were specifically linked to some of the first changes in patient behaviour witnessed by the teams.**

Planning for action

Many staff identified action plans as an intuitive tool to engage patients. These plans are simple contracts patients make with themselves to set realistic goals and practice positive health behaviours (see Appendix IV).[67] Developed in collaboration with primary care providers, action plans provide a reference for discussion on progress between visits.[68] Staff consider the plans useful in making patients partly accountable for their own care.

Many patients appear to like the collaborative approach to working with staff, and being respected as a partner in the care process.[69]

The action plans were specifically linked to some of the first health outcomes – namely changes in patient behaviour – witnessed by the teams.[70] Interviewees noted that some patients initiated action plans on their own. Some other patients attended follow-up sessions with their providers with goals already set – often related to items that staff would not normally have addressed before undertaking SMS training. In some cases, patients contacted their providers to report how good they felt – an indication that patients are engaged and using SMS to help in the management of their own care.[71]

> **With more time spent on management and prevention than acute treatment, staff expect clients to have better control of their symptoms.**

Meeting expectations

The literature shows that people with diabetes who live in jurisdictions with an integrated, standardized approach to SMS experience an improved quality of life from participation in diabetes self-management.[72] Pilot team expectations for patient outcomes align well with the literature. With more time spent on management and prevention than acute treatment, staff expect clients to have better control of their symptoms. Staff also expect to see overall improvements in patients' quality of life and a decrease in frequency of acute illness. Perhaps most importantly, staff expect patients and their families to be empowered in the management of their own disease.[73] According to one staff, SMS will help patients "demand more from healthcare providers, to ask questions… When we empower people, they will speak for their children and their grandparents."

After only six months of implementation, SMS has already taken root in the pilot sites. Six out of the seven diabetes pilot team members interviewed acknowledged some level of implementation of the SMS tools into their practice. Action plans, techniques for increasing patient motivation, agenda setting and follow-up were specifically identified by different pilot team members as being beneficial.

> **"[SMS] is the gold standard for care, we need to get everyone on board."**

As a result of the buy-in from pilot staff and the initiation of implementation of the tools, staff are beginning to see SMS as a valuable approach to collaborating with their patients to improve diabetes management. As one interviewee noted, SMS "is now a philosophy within the program. There is a point where we were no longer considering this as a pilot project but a program." Another interview identified SMS as "the gold standard for care," and was adamant about the "need to get everyone on board."

Pilot teams achieved significant improvements in professional practice and organizational development that have already directly affected diabetes patients. Pilot teams and department staff achieved these improvements within existing budgets and without additional human resources – a testament not only to staff's dedication and endorsement of SMS, but also its practicality and affordability in the treatment of diabetes.

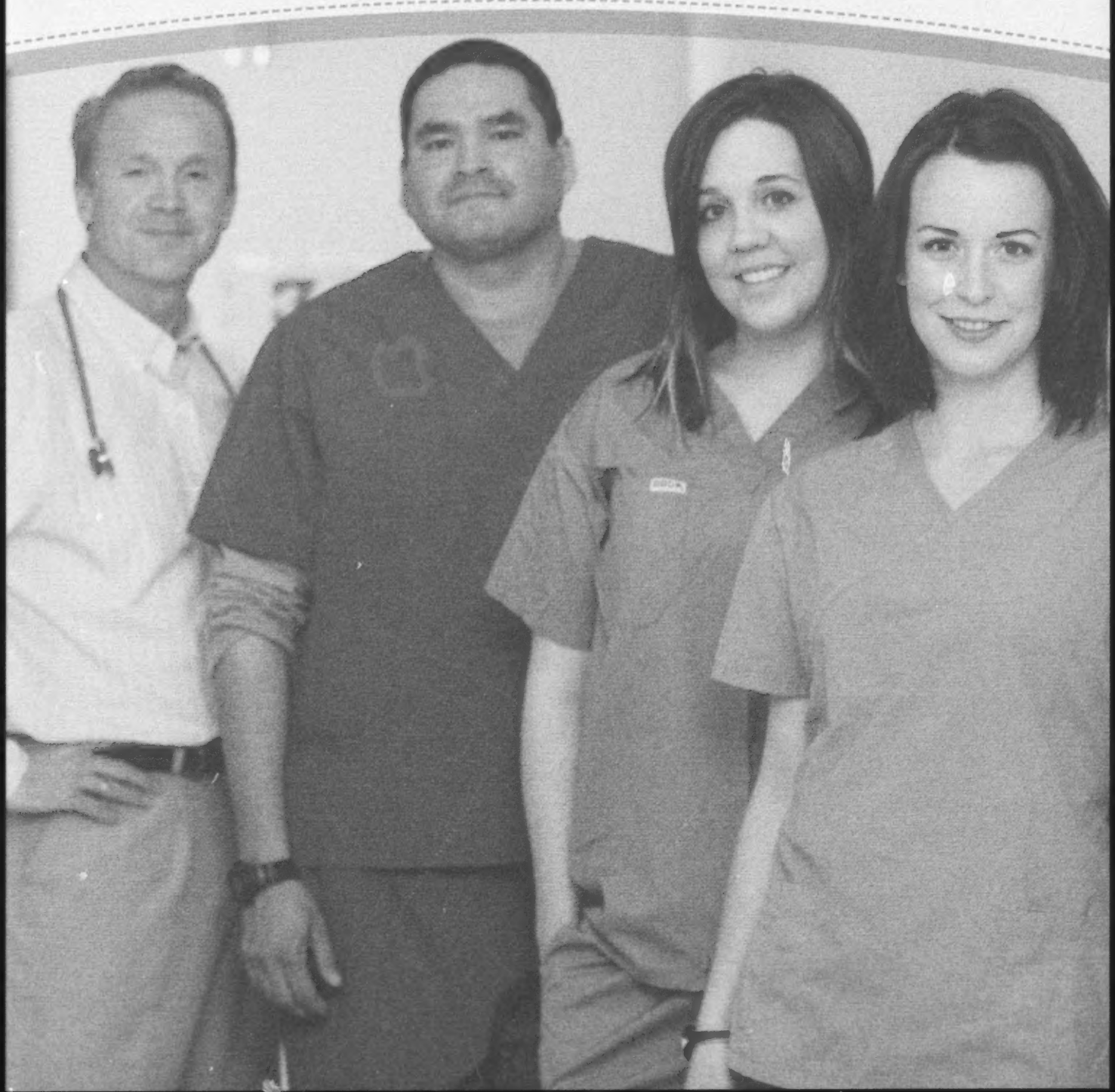
Considerations for sustainability and integration

Pilot and improvement team members have brought forward a number of considerations to support the integration and long term sustainability of the pilot projects:

- Additional resourcing should be provided to establish and maintain an NWT coordinator to lead ongoing SMS training for healthcare providers.
- Dedicated funding should be provided for SMS training and re-training for all department staff, including a standardized hard-copy and virtualized orientation package. Annual re-training sessions should also be provided to refresh staff on the various SMS tools, strategies and practices. Although some staff noted the face-to-face SMS training encouraged relationship building, the training format should also include self-guided e-learning options.
- Staff who successfully complete SMS training should be given opportunities to achieve clinical continuing education credits through the process. SMS training and certification should also be integrated into post-secondary health curriculums (e.g., at Aurora College) to ensure graduates enter the system with a clear understanding of SMS.
- The Department should engage the Aboriginal community to secure its participation in SMS and integrate Aboriginal wellness concepts related to health and self-management into future SMS training and implementation.
- SMS should continue to be prioritized as a quality improvement tool for the management of diabetes. Furthermore, and given broader relevance of this practice, SMS should be applied across all chronic diseases and should become a standard training tool for all healthcare staff within NWT.

Renal Disease

Improved Coordination



The Context

Chronic kidney disease (CKD) incurs substantial social and financial costs in NWT. Between 2008 and 2011 alone, CKD accounted for more than 2,000 bed days each year at an estimated cost of $5.2 million.[74] Yet NWT has no coordinated approach to renal care, and the patient population is not clearly defined. In the absence of territorial guidelines, individual health authorities have created and loosely followed their own chronic disease management strategies.[75] The result is fragmented care practices and an inability to properly identify the precise stage of renal disease in each patient.[76]

Striving to improve coordination

The renal improvement team identified four issues that contribute to the lack of coordination of renal care services:

- Lack of renal disease data in NWT
- Informal disease definition
- Multiple uncoordinated entry points to the current care system
- Poor communication between service- and system-level staff

> Our goal: improve and integrate the provision of renal care provided to NWT residents.

During CFHI's training workshops, the team set its goal to improve patient health outcomes by integrating the provision, and increasing the consistency, of renal care to NWT residents. The pilot project engaged a team of nine frontline and department staff in three key activities:

- Standardizing the definition and process for primary care decision support of early stage renal disease detection and management
- Creating a territorial renal database
- Establishing a single point of entry for renal insufficiency clinics (RICs) and primary care

Pilot implementation took place between September 2012 and March 2013. Yellowknife Health and Social Services Authority (YHSSA) and Hay River Health and Social Services Authority (HRHSSA) supported the project by piloting a renal patient database, while Stanton Territorial Health Authority (STHA) made its central referral intake available for use in the pilot.

Our approach

The improvement team began by developing and disseminating evidence-based clinical practice guidelines (CPGs; see sidebar) and a renal patient referral process (see Appendix V). A range of national and international sources informed development of these tools, including the Northern Alberta Renal Program (NARP), Canadian Diabetes Association (CDA), the UK's National Institute for Health and Clinical Excellence (NICE), and Kidney Health Australia.

As part of the validation process, the team circulated the guidelines to the NWT Medical Director's Forum (MDF) and Nursing Leadership Forum (NLF) for review. The MDF found the processes evidence-based, clear, easy to follow and supported by best practice. The MDF agreed that the processes would support clinical decision-making and help improve the provision of standardized renal care across the territory.[79]

CLINICAL PRACTICE GUIDELINES (CPGS)

The Canadian Medical Association defines CPGs as "systematically developed statements to assist practitioner and patient decisions about appropriate healthcare for specific clinical circumstances."[77] The guidelines gather evidence and professional opinion into brief, easy-to-understand documents that promote the best possible patient outcomes. Various countries recognize the potential of CPGs to improve the quality of healthcare and commit significant resources to their development and dissemination.[78] Among other benefits, CPGs:

- provide publicly accessible descriptions of appropriate care by which to gauge healthcare performance
- help to ensure consistent care across diverse geographical and clinical settings
- help patients form appropriate expectations for care
- encourage more appropriate use of resources

Approved and implemented

The Assistant Deputy Minister of Health and Social Services issued a clinical practice information notice to approve circulation and use of the guidelines not only at the pilot sites, but also throughout NWT (see Appendix VI). The notice accompanied a protocol and process package with information on how to classify the stages of CKD, detect the disease and conduct standardized pre-referral workups. The processes became effective September 15, 2012.[80]

> Training sessions were extremely successful, reaching approximately 70 staff in 14 different NWT sites.

An internist and improvement team member at Stanton volunteered to lead the telehealth training sessions on use of the CPGs. The sessions were extremely successful, reaching approximately 70 staff in 14 different NWT sites (Figure 7). The guidelines were also disseminated via email to those unable to attend the training sessions.

Establishing a single point of entry for referrals

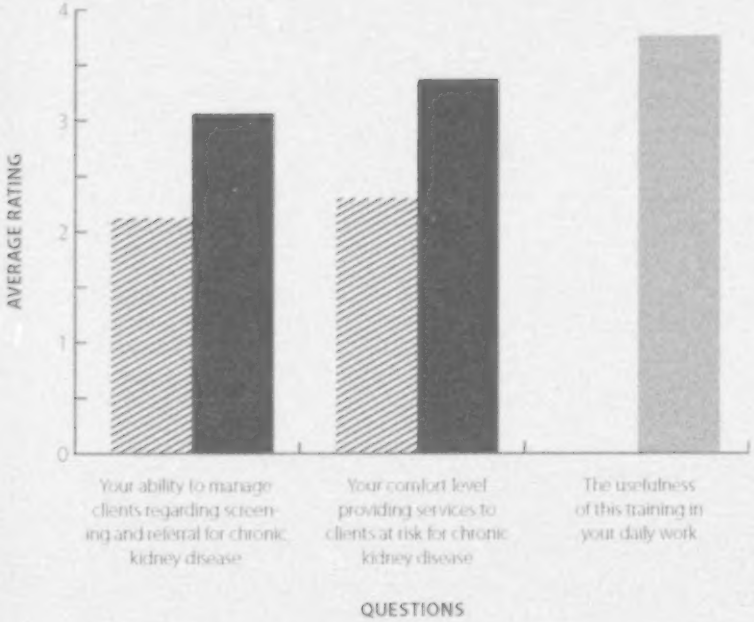
In addition to creating the guidelines, the improvement team identified the need for a centralized renal patient database. Rather than establish a standalone database, the team elected to use the WOLF medical system, an electronic medical records (EMR) tool used in Yellowknife and Hay River and slated for territory-wide implementation in the next few years. WOLF's functionality was deemed adequate to enable pilot-project data collection and patient recall.

A Stanton nurse practitioner (NP) trained on the WOLF system, reviewed and labelled current renal insufficiency clinic (RIC) patients according to consistent diagnoses, and entered new referrals received as a result of the new CPGs.

The price of improvement

The pilot phase received relatively little funding for guideline development – approximately $3,500 for design and printing, the cost of which was absorbed in the territory's healthcare budget. The allocation of staff time, however, was significant. Guideline creation, dissemination and training were all carried out with existing staffing resources. The project increased workloads and redirected attention and resources from other areas. In some instances, staff undertook project activities on overtime, or on their own time.

FIGURE 7
Training Assessments


AVERAGE RATING
4
3
2
1
0
Your ability to manage clients regarding screening and referral for chronic kidney disease
Your comfort level providing services to clients at risk for chronic kidney disease
The usefulness of this training in your daily work
QUESTIONS

Evaluation for Training
(Sep 14, 20 & Nov 22)

Before

After

Training evaluations showed that the sessions increased staff's confidence to screen, refer and manage clients with renal disease. Results also showed that staff were eager to adopt CPGs into practice.[81]

Anecdotal evidence suggests that while the project development and training were resource heavy, demand diminished significantly as training ended and staff began using the guidelines. At the referral intake phase, moderate resource demand was ongoing to administer the project and provide time for the internist and NP to triage referrals. The database, however, required unforeseen and ongoing staffing to manage increases in data entry and referrals, resulting in a number of challenges discussed later in this case study.

Keeping costs down

The NWT Hospitalization Report, released in April 2013, clearly illustrates the need for health interventions to improve renal care – especially interventions that could prevent patient deterioration to end stage kidney disease. The report found that hospitalizations for patients with chronic kidney disease required significant hospital resources.

The costs of treatment in the early stages of CKD are relatively low. As the disease progresses, costs rise with increasing demands on lab testing and physician time. Additional medication may also be required. As patients progress to stage 5, dialysis or transplants become necessary. In the UK, the cost of treating end stage renal disease is 1–2% of the NHS budget, although the disease affects only 0.05% of the population. Dialysis is a large component of these costs.[82] In NWT, 4% of unique patients account for 8% of hospitalization costs, or about $5.2 million each year. These costs could potentially be avoided or significantly reduced with the implementation of the guidelines. The majority of referrals to the RIC were made for patients at stage 3 or 4. As this work continues, patients should be identified at earlier stages. Appropriate treatment at this stage would prevent further patient decline, reduce the need for dialysis, transplants and hospitalizations, and relieve the healthcare system of the significant burden of end stage CKD.[83]

FORGING ALLIANCES FOR BETTER CARE

Staff believe the improvement project was an important factor in the drafting of a service agreement between NWT and the Northern Alberta Renal Program (NARP). The project's standardized guidelines and referral process helped ensure the territory's practices were similar to those in Alberta. The agreement, currently being finalized, will provide assurance of sustainable nephrology services to NWT communities and improve continuity of services for patients transferred to Alberta for specialized care.

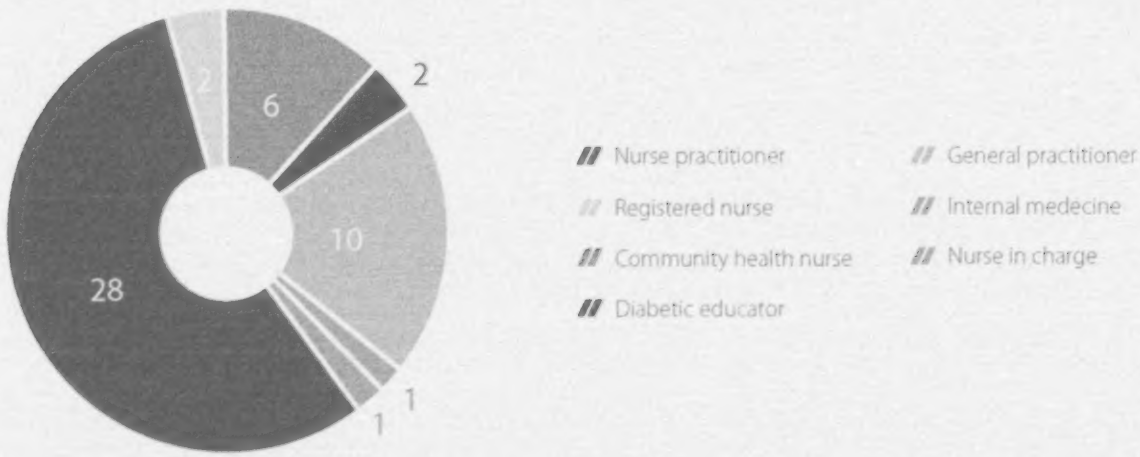
What we found

As in any endeavour, leadership played a significant role in either facilitating or impeding improvement. Although a few staff expressed minor concerns about leadership, most agreed that suitable leadership was available for the pilot project. Staff qualified this endorsement by indicating that the ongoing development of strong local and system-level leadership will be crucial if CPGs are to be used for renal and other chronic diseases. "You need a champion," reported one interviewee, "someone in the middle of the system who sees a lot of people and can speak both up and down; someone who is aware of what is going on at a local level and at a high level."

The support of GPs and specialized physicians is equally important. Staff noted that physicians were open to using the guidelines and that the leadership of the internist at STHA proved essential to drive the work forward.[84]

FIGURE 8

Referrals by Clinician Type



Anecdotal evidence suggests that most referrals were made by GPs prior to the renal improvement project; however, the project clarified the referral process and instilled confidence in other practitioners to screen, refer and manage patients. Of the 52 new referrals during the project, more than three-quarters came from practitioners other than GPs—an indication that many staff may now be practicing at the full extent of their ability to refer.

> Since the CPGs were implemented, the renal program has seen a significant increase in referrals.

Advancing changes in practice

Since the CPGs were implemented in September 2012, the renal program has seen a significant increase in referrals (Figure 8). The increase is likely related to a number of factors:

- Staff are now knowledgeable about the new guideline tools and using them in daily practice. More patients are being properly identified and referred to the renal disease program.
- The project solicited referrals partly for the purpose of data collection related to early stages of CKD. These patients would not otherwise have been referred.
- The project welcomed appropriate referrals from community clinicians as well as traditional referring physicians, such as GPs.

> The increase in the number in referrals indicates that the patient population is larger than originally assumed.

Managing rising numbers

All referring clinicians received a survey to assess the impact of the guidelines on their practice. Those that responded (11 of 20; 55% response rate) indicated that the guidelines provided decision support and influenced their clinical practice. Respondents noted that the increase in referrals means more patients and more strain on the system.[8] Specifically, staff were under pressure to manage the referral increase without additional human resources. As one physician noted, "the way into the system is a referral, which is good, but also a concern because [with a referral]… there is an obligation for care."

The increase in the number in referrals indicates the new CPGs and referral process are helping to define the patient population, which is larger than originally assumed. With numbers expected to continue rising in the short term, resources will likely have to be re-directed to meet demand. "We are just seeing the tip of the iceberg," reported one interviewee. "Once we roll out our guidelines and look at our true numbers, it is just going to explode."

CREATING NEW COLLABORATIVE TOOLS

The Stanton internist created a fax-back renal consultation form to note patients' entries into the program, follow-up with referring clinicians and provide recommendations for patient management in the community (see Appendix VII). Community staff found the form very helpful for creating a collaborative, interdisciplinary patient care plan. By helping improve information sharing between STHA and referring communities, the form also provided more opportunities for practitioners to manage patients where they live.

Informing better patient care

While implementation has not been in place long enough to demonstrate quantifiable patient outcome improvements, based on pilot staff experience to date, participants were able to identify areas in which they predict patient outcomes will improve. Interviewees indicated a belief that this work will improve early identification and diagnosis, promote better quality of life for patients, ensure that patients are seen by an appropriate specialist at the right time, capture true numbers of the renal population in the NWT, standardize care and offer a higher quality of patient care.

Both pilot sites have collected baseline data with which to measure ongoing improvements in the patient referral stage. Prior to pilot implementation, care was not standardized. As one interviewee put it, "everyone was doing something a little bit different to treat patients." With a clear pathway and CPGs now in place, referrals

are increasing in NWT. Care providers are able to look at patients' test results, assess their condition, determine the care they should receive and make appropriate referrals if specialist care is needed.

The value of early interventions

Staff within the communities noted that the guidelines and referral process were useful in caring for patients. One nurse used the CPGs to check patients' blood work. Results of interest prompted the nurse to check the guidelines, ensure the patient was receiving the necessary care and arrange for any incomplete follow-up work to be done. Considering an average of 30% of people with advanced kidney disease are referred late to nephrology services, every effort to identify patients early and prevent the progress of renal disease is clearly valuable.[86] In Fort Simpson, the clinical manager prioritized the CPGs and referral process by posting them directly across from the nurse's front desk. Many staff noted that the ability to easily see and reference the tools helped keep them front of mind.

> Many staff have expressed interest in spreading the use of these tools to other chronic disease areas.

Overall, practitioners throughout NWT have been quick to adopt the CPGs and referral process. Many have expressed interest in spreading the use of these tools to other chronic disease areas. "I would love for this to be happening for cardiology," noted one of the original CPG reviewers. "Many of our medivac dollars are spent on acute coronary syndrome and it is our number one reason for medivac in the NWT. Our medical travel budget is 48% of what the hospital spends on everything, so cardiology is a hugely underserved population."

Technological challenges

A territorial initiative is currently underway to deploy a territory-wide EMR system by 2017. Using the WOLF EMR system, this initiative will give care providers secure access to patients' lab, diagnostic imaging and other medical records.[87,88] At the time of the renal pilot projects, two separate, stand-alone WOLF EMR systems were in use in the only NWT communities that run RIC clinics: Yellowknife and Hay River. It was known to the improvement team that the WOLF systems in these two communities did not interface, however they had not anticipated the impact of this barrier in effectively using the EMR tool to centralize renal care management for the patients at the two sites. The need to create duplicate patient records on Yellowknife's EMR, the pursuant data sharing challenges, and the significant workload associated with this manual data entry, made the use of the EMR for non-Yellowknife clients unfeasible.

The pilot also faced challenges related to staff capacity to manage the influx of referrals and data entry into the system. Manual entry of information for non-Yellowknife clients required a significant amount of time from frontline staff. At the time of the pilots, no staff involved in the project had the capacity to take on the additional work of populating and maintaining the database. Therefore, in June 2012, the Department agreed to change the scope of the project to include only Yellowknife RIC clients and new referrals in the pilot project database until additional project support to manually enter and maintain new clients could be established. As a result, Hay River moved away from having its RIC staff participate directly in the database maintenance. Although Hay River staff still remained part of the pilot projects, their overall participation was diminished. As a result, some staff felt less informed about the overall progress and direction of the project.

The experience of Hay River staff highlights the need for strategic communication at all levels of the pilot to ensure all staff and stakeholders are aware of changes in process and direction related to their work.

Opinions of staff were mixed on the value of using the WOLF system as the renal database tool until interfacing issues and the establishment of a dedicated database coordinator were addressed. As a result, in January 2013, the Department postponed development of the WOLF database beyond completion of the piloting phase; however, the Department was exploring other solutions. That same month, Stanton Territorial Health Authority created and funded the position of renal care coordinator to lead development of a new database, serve as a single-point of entry for all future program referrals and reduce the workload of current staff. Encouraged that database development would proceed as the EMR system continues to develop, staff saw creation of the new position as a significant endorsement of their work in renal care. Overall, the pilot project validated the importance of merging the two databases to form a single territorial database containing records of all NWT residents.

> Clinicians are identifying and properly referring more clients into the renal program – clear evidence that patient care is improving.

A range of positive patient outcomes

Findings overall from the renal improvement project show considerable success in developing a cohort of healthcare providers and managers now skilled in the use of renal disease CPGs and referral processes.

The Department now has baseline renal-patient data it can use to make informed resourcing decisions for the system. Clinicians are identifying and properly referring more clients into the renal program – clear evidence that patient care is improving. For example, there has been a decrease in early referrals while using the same referral criteria, a decrease in disease progression, and a decrease in use of dialysis. Tools such as the consultation fax-back form better equip clinicians to care for patients in their own communities.

Looking ahead, staff identified a number of key health outcomes they expect to flow from the sustained and expanded use of CPGs, including:

- earlier disease detection and diagnosis
- improved, consistent care delivery within a streamline continuum of care
- reduced use of dialysis
- delayed disease progression and overall better quality of life for the patient
- greater accuracy in baseline data related to renal disease (once a database is established)
- standardized care across all communities

Staff believe the project has led to a more coordinated and efficient system for managing chronic kidney disease. Despite the challenges, the implementation team noted significant support for the project throughout the system. Perhaps most encouraging, staff consider the wider use of CPGs and referral processes to be a relatively efficient way for NWT to improve patient care in other chronic disease areas.

Considerations for sustainability and integration

Pilot and improvement team members have brought forward a number of considerations to support the integration and long term sustainability of the pilot projects:

- A central information resource should be available to help staff address questions related to the CPGs and referral process. This would likely be an individual – such as the NP renal coordinator – who staff can rely on for direction, clarity and problem solving. A binder that contains all CPGs should also be available at each health centre.
- The Department should establish a clinical practice steering committee made up of medical directors and nurse practitioners to help develop, continually update and prioritize the ongoing use of CPGs; and to oversee ongoing staff orientation and training regarding any modifications to the guidelines.
- The Department should continue to support staff to practice at the full extent of their scope, using clinicians such as nurse practitioners strategically to support case management.
- NWT should prioritize the expansion of the renal improvement project to address other diseases, the treatment of which would clearly benefit from the use of CPGs and referral processes.
- Now that the position of renal care coordinator has been established, NWT should prioritize the development of an effective territorial renal patient database. The Department should reassess the effectiveness of the WOLF system as a database considering the challenges identified in this project.

Mental Health

Standardized Processes and Information Sharing

The Context?

Mental health service delivery in NWT often involves multiple authorities at various levels; for example, clients may be simultaneously engaged with health and social services as well as the housing corporation or justice department. Yet the processes and procedures for patient referral and information sharing among various agencies have historically been unaligned.[89]

The benefits of standardization

During CFHI's training workshops, the mental health improvement team targeted this systemic challenge with a goal to develop standardized processes and procedures for referral and sharing of mental health information. The team reasoned that standard service delivery would lead to better collaboration among relevant disciplines and authorities, and build an effective network of support for mental health clients seeking psychiatry services at the community, regional and territorial levels.[91]

> **Our goal: develop standardized processes and procedures for referral and sharing of information in mental health.**

The pilot project ran from April 2012 to March 2013 at two sites: Fort Good Hope and Fort Simpson. The project also engaged the psychiatry unit and emergency department at Stanton Territorial Health Authority (STHA), as well as Yellowknife Health and Social Services Authority (YHSSA), which handles central intake for outpatient psychiatry. The improvement team, made up of approximately a dozen multidisciplinary staff, undertook three key activities:

- Developing standardized referral and information sharing pathways
- Training care providers on use of the new pathway
- Implementing the pathways in the pilot communities[92]

A MAJOR CAUSE OF HOSPITALIZATION

In 2010/11, hospitalizations for mental health conditions in NWT were second only to those for circulatory diseases. Between 2008/09 and 2010/11, 18% of unique clients and discharges, 26% of bed days and 22% of costs involved at least one mental health issue.[90]

Our approach

The team launched development of the referral pathways by conducting a series of staff interviews to identify ways to improve current practices. Drawing on evidence from various jurisdictions in NWT, the team prepared a resource toolkit to improve the continuity, quality and coordination of care and, most importantly, patient outcomes.[93]

Staff feedback was essential to revise and validate the care pathways, which were then professionally designed and printed to ensure clarity and consistency for use in the pilot communities.[94] Interviews with frontline staff indicated they were not getting timely referral information on clients moving between health and social services and psychiatric services. In response, the team also created a psychiatric referral checklist to ensure that appropriate information was sent from site to site.

> **Staff feedback was essential to revise and validate the care pathways.**

In August 2012, each pilot site received a comprehensive toolkit (see Appendix VII) containing:

- an overview of the CDM project and its three improvement initiatives in mental health, diabetes and renal disease
- six mental health referral pathways
- key contact information for each site
- a checklist of psychiatric referrals for inpatient/outpatient clients
- a chart review checklist (for the evaluation of the pilot)

SECURING BROAD SUPPORT

Training was critical to reinforce the new practices and pathways, clarify staff roles and secure staff support for the project. The improvement team also solicited the support of key stakeholders outside the project through presentations to physicians, directors, managers and staff. Additional presentations were made at STHA and the Continuing Care Conference in Yellowknife.[98]

Preparing for implementation

Training sessions in July and August 2012 helped prepare frontline staff at the pilot sites to implement the project.[95] Most staff rated the sessions as good or excellent in providing details of the project and direction on use of the toolkit.[96] Follow-up focus groups in September 2012 enabled pilot teams to verify staff's familiarity and experience with project tools and provide additional training and address any challenges staff were encountering (see Appendix IX).[97]

Clinical engagement

Engagement in the Mental Health pilot was generally very strong, with many clinicians demonstrating strong support for pathway development and implementation. All of those involved in the project who responded to a survey said that they would recommend implementation of the pathways in other Health Authorities (insert reference to final MH survey). In focus groups that were conducted with pilot teams, they demonstrated a strong knowledge of the pathways and worked together as a cohesive team to problem-solve case scenarios.

However, full buy-in to the use of the pathways was not initially achieved with one of the teams, as became obvious when a client passed through the system without being processed according to the pathway. This event reinforced the utility of the pathways for the team and served as a key opportunity to reengage commitment to the project. The pilot lead worked quickly to re-train staff on the use of the pathways to ensure that all staff, including locums, were properly informed of the project and the pathways.[99] Fully reoriented to the project, staff effectively processed the next patient according to the new pat' ,ways. The team now demonstrates appreciation for the project tools and support for their continued use.

> The determination of the pilot lead helped build team appreciation for project tools and support for their continued use.

Working with existing resources

The Department tapped into existing resources to carry out this improvement project, incurring minimal hard costs (approximately $3,500) for graphic design and printing of the pathways.[100] Additional in-kind costs to support pathway development, training and focus groups included a significant amount of staff time. Since completion of the pilot, the Department has obtained funding to hire a part-time staff to help with the expansion of the CDM mental health project beyond the piloting sites.

Exploring potential savings

Mental health and addictions are pressing issues within Canada. According to the Centre for Addiction and Mental Health, about 20% of Canadians will experience a mental illness in their lifetime. Huge economic costs are associated with this rate of occurrence. Mental illness is the number one cause of disability in Canada, accounting for 30% of disability claims and an estimated $51 billion in costs to the Canadian economy per year.[101]

In its 2012 budget, the Government of NWT allocated $1.15 million to support mental health and addictions initiatives above and beyond the $9 million spent each year to support mental health and addictions programming.[102] Mental health clients account for 18% of unique patient hospitalizations in the NWT, 50–59% of discharges, 26% of bed days and 22% of costs each year, or $15.3 million.

The mental health IP highlighted two activities with potential for cost-savings in NWT: facilitating information sharing and streamlining care pathways.

Regarding information sharing, one study[103] found that when doctors at emergency departments "voluntarily accessed patient medical records through a health information exchange (HIE), they reduced the number of hospital admissions and diagnostic tests and reduced costs by almost $2 million during a 13-month period."[104] Data was accessed by physicians in only 7% of cases, yet the information sharing still contributed to an estimated net savings of $1.07 million across a medical population of 1.2 million. They study indicated 400 fewer client admissions during the period (August 2007 to August 2008). In addition, fewer tests were ordered, possibly because previous test results were available.[105]

The UK has examined the National Institute for Health and Care Excellence (NICE) guides as care pathways and a means to integrate and re-shape care. In a report, the NHS noted that the guides could result in cost savings as they reduce acute care bed use while increasing quality of care, and could lead to shorter hospital stays.[106] Streamlining care pathways was also found to improve client outcomes and cost savings in orthopaedics, where average hospital stays decreased from 5.1 days to 3.2.[107]

IMPROVING INTER-BRANCH COMMUNICATION

According to staff, the project has improved communication between health and social services. Historically, the independence of these branches has impeded the flow of clients information between them. One interviewee indicated that it "seems like there is a Grand Canyon... between mental health and the health centre."

Use of the referral pathways, however, appears to be breaking down barriers and enabling staff throughout the system to collaborate effectively in referring and monitoring the progress of clients.[110] Staff noted improved relationships between providers, better handoff of clients through the use of the referral pathways and an increase in the use of case management practices.[111] Tnese changes are indicative of future support for more case management among health and social service staff. Case management has also been identified in the NWT Action Plan, which states that the Department will work with other government departments to formalize practices and improve both accessibility to the system and appropriateness of services.

What we found

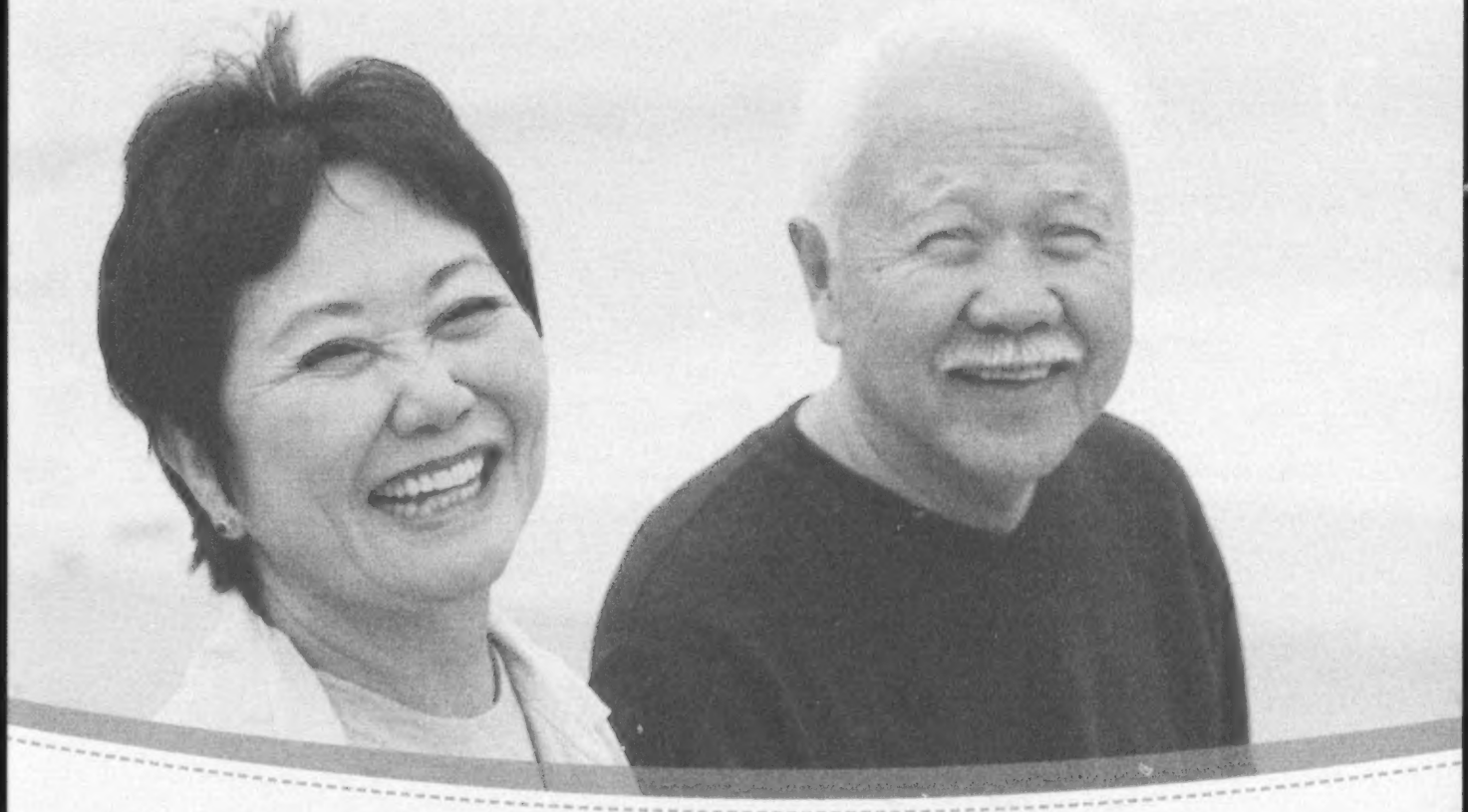
As the CDM pilot projects strive to improve care across NWT, they are not without their own limitations. As already noted, Fort Simpson saw interactions with only two clients who came from the outlying cabin communities; Fort Good Hope received no clients. Both communities are small, suggesting larger pilot sites with a greater ability to draw on client populations may have offered the potential for a more meaningful experience with the new process and tools.

This scarcity of clients makes it difficult to discern the impact the project may have had on client care. Of interest, a post-pilot survey by staff noted an increase in quality care across the system as a result of the pilot projects.[108] The Department feels it is prudent to interpret this and similar opinions as *expectations* for future improvement that may flow from project work – and also as a measure of staff's belief in the potential for the standardization work at the project's core.

Despite these particular limitations, the pilot sites reported a variety of professional and organizational improvements. As the survey reflected, staff are convinced of the benefit of standardized pathways for referring mental health clients. Staff also found value in the information sharing tools, such as the checklists for referral, as well as the pathways for referral to inpatient and outpatient psychiatry. All staff surveyed after the piloting phase recommended the continued use and spread of the toolkit beyond the pilot sites.[109]

Spreading the benefits

At STHA, the inpatient psychiatry unit for the entire territory, staff adapted the pilot project's referral checklist for use in all communities. Since the project ended, STHA has sent a number of discharge plans to clients' home communities – clear evidence of improved communication, acceptance of the process and pathways, and spread of the practice beyond the pilot sites.[112]



Overcoming challenges

The mental health pilots faced a number of challenges. Initially, a number of staff resisted the project, possibly mistaking change as a condemnation of current practice rather than an opportunity to improve.[113] Nonetheless, the pilot team did gain the support of staff at the pilot sites through training and directly involving them in development of the new referral pathways. Staff noted that the divide between inpatient and outpatient services had become less adversarial. One interviewed observed that "there is common ground now – a lot more understanding."

Staff highlight issues related to clients' consent to share their medical information.

The question of consent

Although the new pathways were seen as a useful tool for standardization and information sharing, staff highlighted issues related to clients' consent to share their medical information. Staff expressed concerns not only about the ethical issues related to obtaining consent from clients in crisis situations, but also about the validity of such consent.[114] Staff also expressed confusion about who should be expected to obtain client consent and what information could be shared among different groups.[115] This uncertainty hampered communication as providers perceived they were unable to legally distribute information within NWT. Some sites sought legal advice about current legislation and practices, and some staff refused to share certain information.[116] If NWT is to realize the full benefit of the new pathways, guidelines would provide clarity about the legality, practice and process for obtaining client consent.[117]

Forging departmental leadership

Staff at the IP level generally considered project leadership to be strong. Despite having a change in department-level leadership for the mental health project, pilot staff saw their leads as an accessible resource when addressing challenges and barriers associated with their IP.

In addition, interdepartmental lack of communication was identified during the initial stages of the project. Through ongoing lessons learned interviews as part of evaluation, communication amongst the team members improved immensely. The mental health leads were able to establish champions amongst the pilot sites to further advance the project.[118]

> The experiential judgments of staff make clear distinctions between the care provided to mental health clients before and after the project.

Considering the impact on client care

The ongoing use and spread of the new referral pathways will eventually provide the necessary evidence to measure client outcomes. For the time being, the experiential judgments of staff make clear distinctions between the care provided to mental health clients before and after the project.

Previous care

Prior to implementation of the mental health project, staff feel client care faced two key challenges:

- There was a perception of missed clients who were not properly identified and often did not receive appropriate care.
- Lack of communication between care providers in different centres often resulted in a perception that clients were being lost within the system. Community care providers did not know where clients were in the care process or if they had been discharged back to the community. Staff reported similar communication gaps between referring communities and ER as clients arrived at emergency with no information about their history.

FOCUSED ON PREVENTION

Despite the many organizational benefits that have flowed from the mental health project, staff thought that further effort was required to transition the system from one driven by crisis to one focused on prevention. Ultimately, better mental health care will rely on the Department's efforts to further integrate health and social services, formalize and standardize relationships between Health Authorities and increase the use of case management practices.

Current care

Since implementation, staff have identified positive changes related to the standardization of care, an increase in communication and follow-up, and improved client referral. Overall, staff have noted they are more confident in their jobs and are more aware of how to support their clients. The project was also seen as a positive networking exercise, improving communication and relationships among colleagues in various locations. As one staff noted, "the most important piece is that now there is a dedicated process. If there is an issue, you know who to call."

> **The project has increased dialogue among healthcare staff and helped raise awareness around mental health processes.**

Clear support

Despite various project challenges, staff at the pilot sites have voiced strong support for the expansion of this work across NWT. Staff believe standardized pathways will facilitate faster and more efficient care, improve communication, promote team approaches, increase clients satisfaction, reduce re-admission rates and shorten hospital stays.

The pilot project has increased dialogue among healthcare staff and helped raise awareness around mental health processes. Perhaps more important, the project has instilled a greater understanding of change management within the department and underscored how complex the process can be. As one staff noted about the prospect for positive change, "The project gave me confidence that it is possible here."

In June 2013 the Department released *A Shared Path Towards Wellness*, an action plan that will guide mental health and addiction services for the next three years. Within this report, the Department has committed to using the mental health pathways throughout NWT – clear support for the scale and spread of work carried out under the mental health IP.

Considerations for sustainability and integration

Pilot and improvement team members have brought forward a number of considerations to support the integration and long term sustainability of the pilot projects:

- Given its broad applicability, the mental health toolkit should be adapted to support improved treatment of other chronic diseases.
- The Department should dedicate financial and human resources to support not only appropriate training and orientation of all staff on the mental health tools, but also the further spread of the tools throughout NWT. Further education initiatives should include creation of a standard, easy-to-use orientation toolkit for use in each community, as well as annual or bi-annual re-training for all associated staff.
- Staff identified case management practices and interdisciplinary care as critical to further improvement of mental health services; therefore, the Department should continue to foster opportunities to formalize and implement these practices, which support relationship building and better flow of information between providers.
- The Department must prioritize efforts to clarify and ensure staff are fully informed of policies, guidelines, and practices concerning client confidentiality and consent to share information – particularly among inter-branch and inter-departmental service providers and external health authorities.
- Because mental health services cross multiple sectors, efforts to sustain or expand the work of the project should include community level stakeholders and representatives from housing, education and justice services to ensure the work benefits from the insights of the full range of professionals who interact with mental health clients.

Appendices

To access appendices listed below please go to www.cfhi-fcass.ca or www.hss.gov.nt.ca

Appendix I: NWT Evaluation Questions & Methodologies

Appendix II: SMS Training Session Descriptions

Appendix III: SMS Outcomes Measurement Tools

Appendix IV: SMS Action Plan Template

Appendix V: Renal CPGs & Referral Guidelines

Appendix VI: Renal Clinical Practice Information Notice

Appendix VII: Renal Referral Fax-back Form

Appendix VIII: Mental Health Toolkit

Appendix IX: Mental Health Focus Group Questions & Scenarios

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Northwest Territories

Kīspin ki nitawihtin ā nīhīyawihk ōma ācimōwin, tipwēsinēn.

Cree

Ɂerihtł'ís dëne sųłiné yati t'a huts'elkër xa beyéyati theɔ ɂat'e, nuwe ts'ën yółti.

Chipewyan

If you would like this information in another official language, call us.

English

Si vous voulez ces renseignements en français, contactez-nous.

Français

Jii gwandak izhii ginjìk vat'atr'ijąhch'uu zhìt yinohthan jì', diits'àt ginohkhìi.

Gwich'in

Hapkua titiqqat pijumagupkit Inuinnaqtun, uvaptinnut hivajarlutit.

Inuinnaqtun

ᑕᕐᔪᐊ ᑎᑎᖅᑲᐃᑦ ᐱᓕᒍᕕᑦ ᐃᓄᖃᑎᑦᓯᓚᑲᑎᒃ, ᐅᑉᐱᑎᓄᑦ ᐅᖃᓕ ᐊᖏᓂᑐᑦ.

Inuktitut

UVANITTUAQ ILITCHURISUKUPKU INUVIALUKTUN, QUQUAQLUTA

Inuvialuktun

K'éhshó got'ıne xədǝ́ k'é hederi ɔedıhtl'é yerıniwę nídé dúle.

North Slavey

Edi gondı dehgéh got'ıe zhatié k'ǫ́ǫ́ edatł'éh enahddhę nide.

South Slavey

Thchǫ yati k'ǫ̀ǫ̀ dè wegodı wek'èhoızǫ nǫ̀ǫwǫ dè, gots'ǫ̀ goahde.

Thchǫ

1-867-920-3367